

1111	00101	71798	81007	90701	11000	68824	11018	13743	20289	28106	12829	33103	99002	47887	81080	69933	60279	80432	65793	83277	34142	13241	30590	97760	33
401	10703	23167	43623	43021	33132	12544	41035	80780	45303	44812	12515	98331	00199	50993	98303	38452	87890	94624	60721	57454	67501	77638	44331	11257	71
9405	83946	23792	14422	15059	45799	22716	10792	09033	74353	68968	30429	70735	00578	00453	25733	37837	07926	98710	98539	27185	31237	89012	44483	97819	70
3631	35006	85000	98275	32353	52890	16315	69208	52732	38480	73817	32523	41961	91240	18312	17441	01929	18163	69201	31211	54253	39206	37318	65724	30401	79
5773	20206	42559	78085	05300	22164	24330	54224	33083	19037	11052	91491	00333	97458	14229	12063	59611	32249	90466	33216	19358	02591	54262	88449	01942	07
9935	61162	14349	82674	60523	44133	00607	35552	35970	19124	63318	29638	03337	35249	38046	34475	72417	60514	69257	12439	51024	86871	92446	36007	11458	30
1624	76384	17403	53363	44167	64486	64735	75365	76554	31691	12614	33072	60332	38980	46600	11759	14900	46743	27860	77940	39258	97838	35145	32378	68038	85
3919	19474	23632	27839	47914	02584	37630	20501	72132	39339	34806	08330	85301	10750	52745	38749	87365	58939	53731	89295	53032	39404	13198	59660	70408	29
9031	33309	57047	74211	63445	17361	62825	39908	05607	91284	68833	25579	38818	36247	27850	73958	20673	37800	63835	71051	84724	52492	22342	78071	17456	90
1426	3273	43972	10119	59917	15665	62872	73823	73144	88662	88976	74392	51805	70994	66936	99744	72438	01174	42159	11392	20724	54322	36923	70009	23233	67
0068	00903	20795	05452	92648	45454	09552	68815	16553	51125	79375	97596	10296	99638	94762	11463	18148	81386	80431	90628	52506	02016	85151	88593	47821	00
2335	12426	87025	14267	26979	04608	64535	31355	38954	29472	47659	03974	52468	72035	15774	43857	99805	10419	76939	25893	03541	21560	83471	43839	90770	22
1153	35002	26504	41744	81959	65642	74240	56362	00033	67107	77510	70625	28725	24038	65541	85783	55335	36835	59539	13790	35112	01324	33520	76210	22467	53
457	40742	29520	96783	29400	21840	15035	34537	33310	06116	95240	15957	16572	74976	14631	35008	28221	39470	91548	12854	30166	09073	75887	36782	00268	97
581	57802	02050	89723	17937	37321	47075	42050	97408	48626	68995	43855	33388	35553	71628	70189	26436	63407	91178	90348	55359	80392	41012	36270	77786	89
612	78095	83197	33732	06310	24513	86302	60397	16489	03264	88525	42738	05269	35676	12797	51434	82976	42010	26344	92920	92155	58807	54654	95381	95331	78
667	66999	99324	51281	84463	60563	79312	93454	68876	25471	93311	25650	12682	74815	67523	72985	23183	02443	63594	98924	20623	58842	85961	07648	70164	34
340	84979	46949	81973	37949	61023	43997	15263	80644	43942	89203	71795	99533	45246	88048	65173	50989	91069	89894	36063	32819	68359	99221	49475	50558	34
227	21199	31935	27022	84067	05462	35216	14456	26891	68607	41867	14951	91696	70509	47069	56373	41797	11910	49672	83575	97966	32466	10083	54728	81972	58
901	38140	66321	19924	72163	09533	12151	06878	91903	18749	34465	53037	82790	19639	90332	04315	21353	97248	11188	39062	63312	52496	07349	79178	33692	57
000	05224	72958	28609	81406	39147	25549	48542	42527	45233	57202	94617	23772	42751	35318	97513	61537	54555	80159	80778	27507	95478	21252	12746	37	
504	90131	83944	41575	10573	08619	64452	73923	36152	05184	94142	25299	84337	11946	22681	45045	13964	57517	59419	58045	44067	58716	55840	45557	96345	33
169	94851	39117	89632	00939	16487	65536	49071	39782	17093	02330	74391	00275	96518	48638	20996	11090	46396	57177	33867	36464	14342	21545	45717	72364	80
508	70225	51111	38351	19444	66499	71945	05422	13442	78675	84081	66938	93654	35726	58643	76869	84622	39093	36033	72505	92265	23107	60278	05822	46760	44
449	30562	06694	54690	04052	53115	62757	95348	78682	11163	81551	50245	34971	39737	42750	48968	70336	84864	64952	38404	94317	65402	13689	01055	79044	19
615	70351	85922	38329	57015	15765	97161	17369	45349	61796	66345	81073	49108	97025	66492	56177	60409	80312	48028	26408	43991	75528	66341	49044	95495	81
986	51223	42416	58353	21532	30502	32305	86432	05174	07901	54339	58561	74518	62314	08075	09788	56350	76787	51591	54509	49295	85330	30560	30883	91666	91
798	64935	46583	09765	44160	78128	83991	42365	92520	83531	80377	35909	81250	25578	22950	15227	83291	41737	79599	96191	71845	86399	70894	24290	01551	80
486	84846	99254	67632	43218	50076	21361	64816	51202	88124	41870	52689	51275	68763	69576	88991	49662	46704	63362	56625	00481	73323	91427	15264	06969	57
885	32906	92431	09069	64297	51674	04126	62570	26123	05155	59194	52799	28225	17900	00813	64361	60725	53974	61005	99709	30866	26451	11528	44323	34778	60
336	95782	07408	53468	13564	59089	26445	29789	85205	41001	12535	12133	14645	71944	60227	63551	71109	05524	43836	58254	26160	32116	63403	35404	57146	10
937	46891	24010	25560	86355	33941	25786	54990	71899	15475	95434	98227	21824	54684	93691	85132	64399	29182	44324	14491	55226	78793	34107	30374	48429	51
956	83175	89393	16275	07100	92063	21942	18611	47348	20203	18534	03862	78995	25946	27623	11258	65204	52832	50580	22273	05554	99521	73791	85744	29276	70
259	01221	05418	38982	55758	92237	26739	86367	21216	98402	06303	56613	91511	01353	39318	44961	44972	91766	90262	56073	06966	51826	18892	83448	31915	97
626	06486	03574	17668	07785	76020	79924	25651	83325	88428	85076	72811	22717	99033	83191	27662	99118	57174	35571	99884	13951	71057	53961	61448	74909	07
636	68335	47539	93129	65651	11977	02510	26113	99447	68645	34327	15152	55230	52021	45406	37945	75234	24327	80978	22614	87779	23753	99926	63898	54836	136
039	14367	61337	06177	12143	46659	32989	74014	64708	00533	35398	53408	13261	78755	47744	43776	83098	03225	14281	83637	55984	13309	52212	58781	14905	40
362	15056	60627	36478	65648	16754	53412	09013	07832	41574	17639	82163	60359	25232	60109	59180	16257	22810	43609	12224	25643	59884	31149	85423	32581	343
556	29068	04142	16268	15357	12356	66227	38358	22478	73373	88732	09443	APA-TECH	94202	02743	86347	79725	51811	12998	76844	05320	54236	58391	70226	386	
008	82674	27072	32534	17075	27698	98204	63663	11951	34648	88022	56148	17171	71717	13792	98190	01424	30078	23197	55583	05197	47714	65440	22016	79204	068
5253	40055	67066	12203	02753	14327	22235	35071	99704	37543	11661	71717	17171	17171	97912	68110	59312	95448	43244	31262	85880	13040	16458	43813	89416	42
915	96306	03908	97901	28395	14186	00821	80703	70426	75647	76310	88717	17171	17171	75714	89585	99296	52640	46518	55486	90754	88932	19437	57119	23251	556
937	33360	20695	62247	69927	76123	50842	45834	86654	70959	79725	93872	71717	17171	07589	39660	60366	53007	20007	66819	84164	61131	81429	60676	42807	782
180	15011	01536	02011	81647	91640	69179	14194	62590	36207	20909	99570	38128	51178	75096	13609	16110	73533	42564	59870	29399	67834	91035	89917	51096	890
368	46573	25595	85393	30995	89198	27982	53402	93065	34095	52666	19174	60950	00455	73254	90607	50717	13878	03216	78274	65863	37011	91233	33914	91393	433
130	48260	22527	97265	76393	64809	15179	24830	49340	32081	30680	19655	90524	17320	29832	96118	75792	25326	22940	24904	80523	38928	91374	55597	97597	359
167	93093	06243	61680	07856	18376	39440	53537	17341	57004	00849	74917	46897	18278	76160	39408	97056	43517	84426	59650	20247	10203	02019	14760	02832	653
570	39975	81837	16656	06121	91782	60468	81805	49684	60672	14110	06927	18494	09209	81000	19488	65596	59787	4							

Appa-
Tevh

17 ¹/₂



The APA for & by G people,
except for those who aren't - yet
(or something)

still February 1982

NOT the
555 Times #17

SPECIAL "WHAT YOU DIDN'T
GET AT BOSKONE" ISSUE

Arlington Street at Park Plaza
Boston, Massachusetts 02117
617-426-2000

Overlooking the Public Garden
and Boston Common,
which is not easy, considering its size!

A TABLE OF

RANDOM UNITS

Harmonic Coefficients : another long one by Ye Skeffington ~~~~~ 11
(fun, too!)

I Get A Real Bad Feeling About This... : by Clif Flynt, who little
realizes what he's gotten himself into ~~~~~ 1

Amidst Confusion : a dyn-o-mite, outasite cartoonists' jam session (you might
find it amusing) by ;huuuh= Robin Beal, E. Michael Blake,
Cecile Cloutier, Chris Cloutier, Paul Gadzikowski, Barry Gehm,
Bill Higgins, Alice Insley, Herb Johnson, Greg Ruffa, Tally St. Lewis,
and Jeff Tolliver ~~~~~ 4

Young and Abroad in the Solar System : Mike Sestak yet floats 'twixt the planets
and the leftovers ~~~~~ 6

Teenage Heaven Highway : some Gerald Corrigan or other slipped me this ~~~~~ 2

Meromorphic Mélange : that bozo in Joizee blathers on ~~~~~ 10

The Eighth Orbital : Jamie Hanrahan wrote this, whilst clinging to the loose edge
of America ~~~~~ 8

PRODUCED AT THE CENTER FOR SPACED RESEARCH
IN HAMBURG, NEW JERSEY WHILE SOMETHING
ELSE WAS SUPPOSED TO BE GETTING DONE...

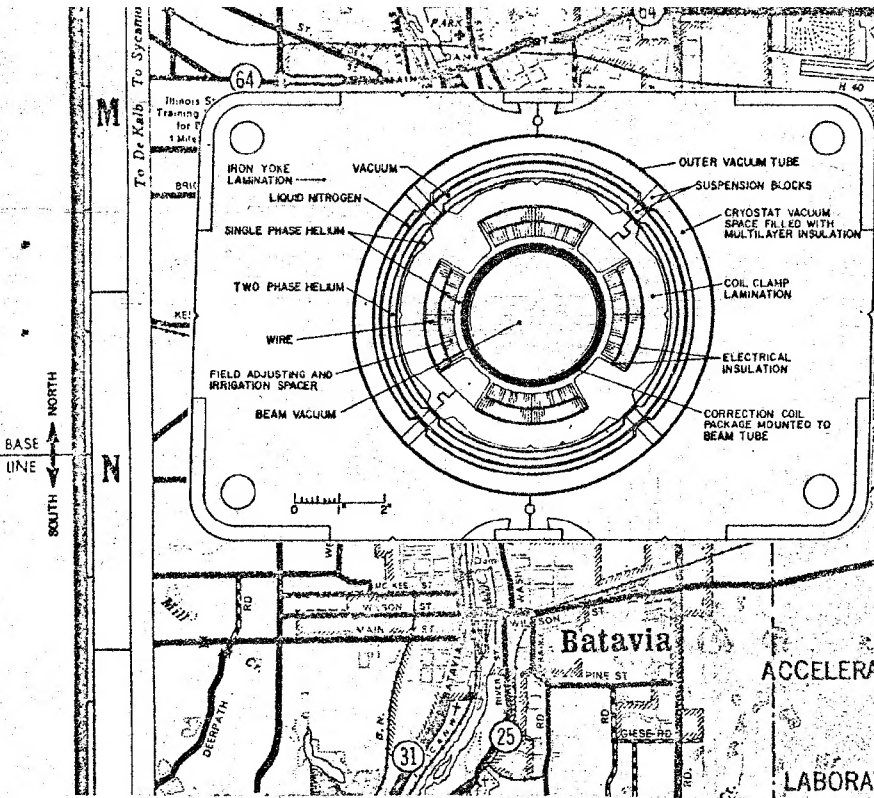
110 pages
for AT 17 so far

(and QS 16 isn't even out yet,
much less any other postmailings)

Boston's Grandest Ballroom • Complete Conference Facilities
Cafe Rouge • Fox & Hounds • Captain's Piano Bar • Lobby Garden Lounge
Adjoining the Statler Office Building

Toll-Free Room Reservations: 800-225-2008

THIS IS NOT A PROSPECTUS
OR AN OFFER TO SEND A PROSPECTUS...



DEH (UP 9) FFT RESULTS

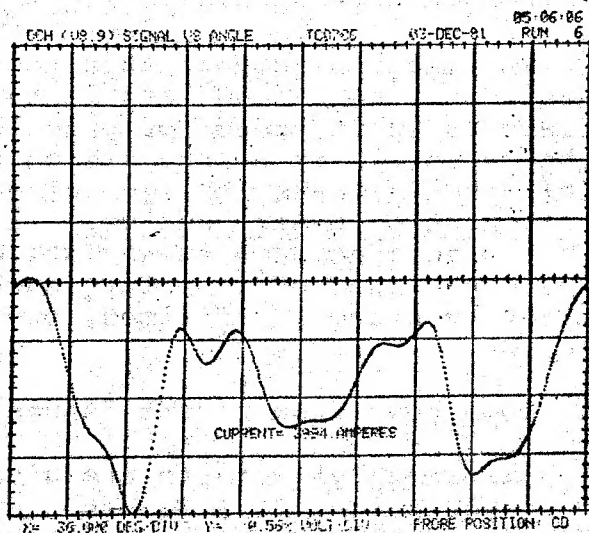
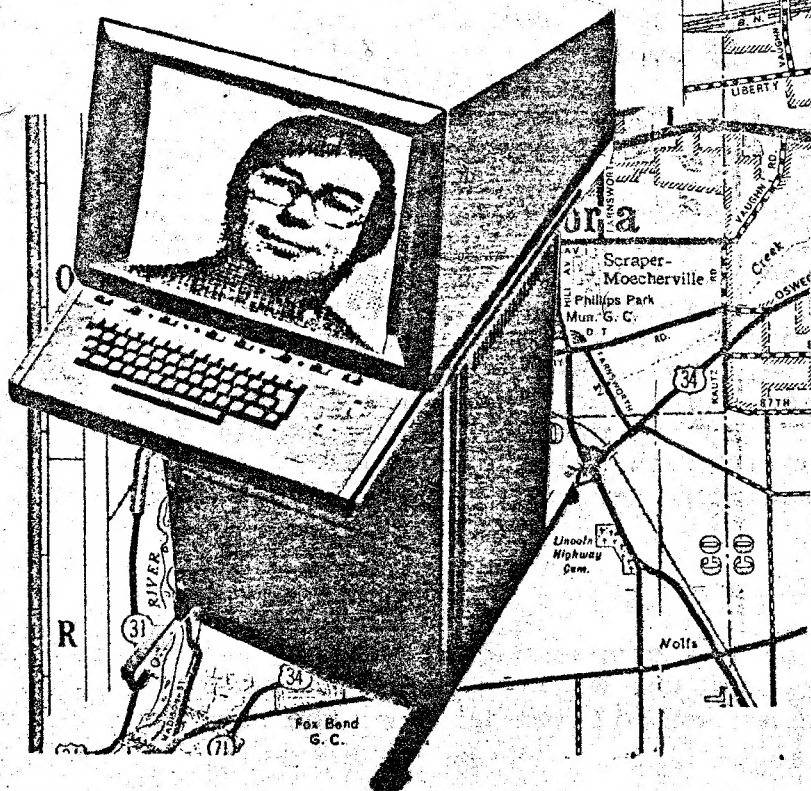
WFOSET 7.0756
DATE 03-DEC-81
STANDARD AMPLITUDE
J. FREE POSITION
INTEGRATOR 207
CURRENT 3294 AMP

STAND: 5 HNS: 1 HARM BORE: 7
TIME 05:06:25
6253.348 U
CENT/DIAR
RC: 101.000 MSEC
DRIFT: 0.005 VOLTS

OPERATOR: C. SHTAWY
PHASE: -6.3199 DEG
COMPENSATION POTS: 0.319 0.029
GAIN: 100.000
E.C.: 0 R/RP E.C.: 1024

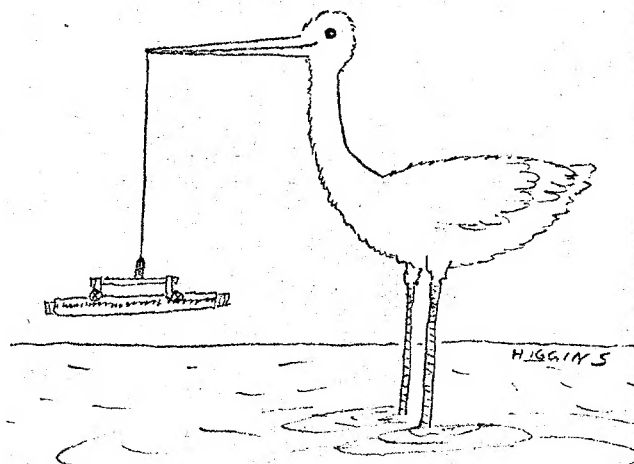
RUN: 6
FILE: 1

COMPONENT	AMPLITUDE ACTUAL	AMPLITUDE STANDARD	PHASE	PHASE CORRECTED
0	1.0228	20.6601	0.0000	0.0000
2	0.0329	0.6651	-6.3169	-6.4979
4	0.2641	5.3352	-11.8902	-11.2422
6	0.7375	14.6972	-17.0789	-16.1139
8	0.0767	1.5495	-42.1209	-40.8449
10	0.0756	1.5157	178.1321	179.7271
12	0.0243	0.4909	148.5633	150.4773
14	0.1239	2.0022	-1.0563	0.3567
16	0.0568	1.3434	-74.8311	-72.2799
18	0.1626	3.2554	159.9211	162.7921
20	0.0154	0.3106	112.2323	115.4223
22	0.0399	0.4642	-19.6358	-16.1463
24	0.0026		-11.8951	-8.0571
26	0.0000		-11.8902	-172.6532
28				-183.1619
30				-18.0718



HARMONIC COEFFICIENTS

Once again we romp through the pages of W. Skeffington Higgins's scatterbrained journals. When he is not pumping quarters into video games, the author may be cornered at 853 Lorlyn Drive, Apartment 1A, West Chicago, Illinois 60185. Phone: (312) 293-1050. Office address is MS 344, Fermilab, Box 500, Batavia, Illinois 60510.



The winter months, I'm told, are good times to curl up with a book in a warm room. This winter has hit record-breaking low temperatures in Chicago; perhaps that's why I've been doing so much reading lately. In any case, this zine will concern itself mostly with reading matter.

As for the rest of life, I'm no longer working any twelve-hour shifts at the Magnet Test Facility, though through my own choice I am still on the midnight shift. So I have fewer days off, but am not quite worn to such a frazzle. They're giving us crane-handling instruction so we'll be able to assist the installers in wrestling the four-ton magnets into place. Running the overhead crane itself is straightforward-- there are only half a dozen buttons to use-- but most of the instruction has to do with safety, as one could take out a lot of plumbing or people with careless handling.

An Eye on the Sky

I managed to surprise some of my space-freak buddies at Christmas by handing over a stack of magazines: Aviation Week and Space Technology. It's the best newsmagazine for the aerospace industry, full of ads for missiles, avionics, and jet engines. I decided last summer that I should spend some money trying to investigate the space business with an eye to getting a job someday. So I sprang for two years' worth of AW&ST for fifty-eight bucks. The other advantage was that it gave me a window on current developments in detail, so I might learn about Shuttle procedures and satellite launching details from the same source Doug Van Dorn and Bill Leininger have used.

The magazine covers such topics in more detail than you might want to know, and so it has made me a lot better informed. But since it is intended for practical businessmen in the Pentagon and the industry, it has no vision beyond the next couple of years-- for that you'd have to go elsewhere, to JBIS or occasionally Astronautics & Aeronautics. It also has a very "hard news" approach that precludes much human interest. To its credit, it has excellent sources, and often prints such curiosa as color closeups of Soviet military planes. At times, one imagines, the CIA can hardly do better.

Some news from recent issues:

(18 January) Details are given of the proposed deal whereby Space Transportation Co., a subsidiary of the William Sword investment banking firm, offers to plunk down a cool billion to buy the fifth

3
Shuttle orbiter. In exchange they want to take over all commercial and foreign marketing of STS launching services from NASA. If this deal doesn't go through, they want to get into space marketing any way they can, but this is their biggest and best chance.

(18 January) NASA is asking for money to fly an orbital repair mission in late 1983. They're working out techniques for fixing the crippled Solar Maximum Mission satellite in space rather than returning it to the ground, arguing that the scientific returns would be large and that the working experience would be very beneficial to NASA. Congress is lukewarm.

(29 December) The Galileo Jupiter probe mission has been restored to the Fiscal 1983 budget (yay!). It will take two years longer to get there, however, because the big Centaur upper stage isn't funded, and the slower solid-fuel IUS will have to be used. Pray the spacecraft has a long lifetime...

(21 December) More, with pictures, on that air-launched small manned orbiter Rod reported on last mailing. It looks like a lifting body, and will carry a large disposable fuel tank wrapped around its nose.

(11 January) ESA countries have formed Arianespace, a company which will market launch services to people with satellites in an aggressive way. They've already got Westar VI.

(18 January) The Air Force is proceeding with tests and developments of an antisatellite missile to be launched from F-15s. This one is frightening.

To Air Is Human

Todd Johnson suggests that we develop a blue smoke for skywriters who make mistakes.

Babbling Books

I'll try to do some brief looks at recent readings.

A Life in Our Times by John Kenneth Galbraith is fun to read whether you like New Deal liberal economists or not. JKG's jolly egotism and searing wit makes each page enjoyable. He was in charge of the nation's price controls during World War II, served as Kennedy's ambassador to India, and taught at Harvard for a quarter of a century. I was especially fascinated by his erudite writing style (which is perhaps a bit affected).

Danse Macabre is Steven King's look at horror, a subject which doesn't appeal to me much. He covers books, films, radio, and even EC comics, touching the while on myriad aspects of popular culture. His point of view is that of a thoughtful fan, and occasionally that of a "literary journeyman," rather than a scholar. As you might expect from a best-selling novelist, DM is a whacking good read. (I've always wanted to use that phrase.) King's discussions of horror writing are enhanced by big chunks of correspondence from other writers-- Peter Straub, Jack Finney, Richard Matheson, Harlan Ellison-- talking about their works. Definitely a Hugo nominee.



It's very hard these days to locate a copy of Rocket to the Morgue, by H.H. Holmes. And it's not an outstanding novel, but as a Trivia Master I wanted to sample it. It's a murder mystery revolving around a group of SF writers and fans. The fun part is that the characters are mostly real writers, thinly disguised.

"H.H. Holmes" was a pseudonym of the late William A.P. White, who became famous for both his mysteries and his SF, and edited Fantasy and Science Fiction in its salad days. You'll know him better by his other pen name-- Anthony Boucher. To confuse matters, Tony Boucher is a minor but significant character in the novel.

The mystery, including a locked-room stabbing and Sister Ursula, the cloistered detective, is shaky. Still, the entertainment for me came from guessing all the roman a clef characters, and the book gives a reasonable portrayal of the science fiction scene in 1941. Guess who the rocket experimenters in Pasadena evolved into?...

Another book that's not really great, but which you might enjoy for its novelty, is Code Three, by Rick Raphael. Strung together from three Analog novellas in 1965, it reflects perhaps the author's bedazzlement with America's great engineering achievement of the time: the Interstate Defense Highway System. What would come after a national network of 80-mph highways? Why, the North American Continental Thruway System, of course.

"Public demand for faster and more powerful vehicles had forced the automotive industry to put more and more power under the touch of the ever-growing millions of drivers crowding the continent's roads...Thus grew the continental thruways with their four speed lanes in each direction, each a half-mile wide, separated east and west and north and south by a half-mile landscaped divider." Code Three is the saga of the crew of Beulah, NorCon Car 56, three dedicated and incorruptible officers riding the roads in hopes of slowing the driving public's effort to kill each other off at 400 mph.

Well, automobiles haven't evolved just like that. This novel, though, is ASF extrapolation in its purest form. The cops don't really do anything a 1965 state trooper wouldn't do; but everything is Bigger and Faster. Loving detail is lavished on the car and other gadgetry involved; the latest technology is rung in, and the result is a 250-ton monster prowler car with a galley, machine shop, and dispensary. Here are some phrases from Beulah's description: "...four-foot-high bubble canopy... variable beam headlight... track assembly of her dual propulsion system... crane arm with a 200-ton lift capacity... other extensible gear and periscopes..."

5

speeds close to 600 miles per hour... floating on an impeller air cushion and driven forward by a pair of 150,000-pound thrust jets and ramjets."

I'm an unabashed lover of gadget fiction, and this novel is a quintessential example. Raphael is competent enough to keep the story (such as it is) moving along while we see all the equipment in action. I recommend it if you like this sort of thing. (I also suspect that this is the kind of story Rod Smith would like to write in "Juggernaut.")

And speaking of Analog, I've just been reading a Ballantine novel that was serialized there last year, by a guy we're more used to seeing writing nonfiction. Under the pen name of Lee Correy, G. Harry Stine offers Shuttle Down, a realistic aerospace story of the Martin Caidin school. A Shuttle flight aborts during a polar-orbit launch from Vandenberg, and lands on Easter Island, which has a long enough runway but not much else. The story concerns the efforts of NASA, the State Department, the Air Force, and the Chilean government to recover the valuable spacecraft as it sits helpless on the end of a runway two thousand miles from anywhere.

I enjoyed the book more than I thought I would. Stine, er, Correy conjures up plenty of convincing detail on all the operations concerned and shows that the recovery is a lot harder than you might think. Like Raphael, he is competent to keep the plot going. He is quite a bit more entertaining than RR, and his characters are somewhat better. ASF partisans among us might like to nominate this for Hugodome. On the other hand, picky purists might claim that it's not even SF...

Never Have So Many Owed So Much To Some Feuds

If there was ever any doubt that Bill Higgins is a Trufan there can be none now. I have now finished reading the legendary The Immortal Storm, by Sam Moskowitz. Fred Pohl said of this book, "If read immediately after a history of World War II, it does not seem like an anticlimax." Moskowitz worked very hard to chronicle the history of science fiction fandom in the 1930's.

Alas, the book suffers from pomposity, turgidity, and nearly terminal seriousness. In an effort to act as an impartial historian, Moskowitz, who was an important actor in many of the events of the story, always refers to himself in the third person, either as "Moskowitz" (the participant) or as "your historian." This unnecessary gimmick only distances the reader from the narrative without really adding anything to the history's objectivity or credibility. It is compounded by Moskowitz's criticisms, at times even painful, of his younger self's actions and attitudes.

His writing style doesn't help, either. I will only note that it has earned for the book its "unreadable" (James Blish) reputation.

The central theme of The Immortal Storm, though, gives it its unique aspect: History As Feud. Quarrels, on a small scale or large, are seen as the measure of progress. Each small bit of egoboo, putdown of an adversary, brief day in the limelight, tiny advantage is detailed mercilessly.

Culminating the book is, of course, the fight between Donald Wollheim's Futurians and "New Fandom" (Moskowitz, Sykora, and Taurasi) for the privilege of sponsoring the first Worldcon in 1939. It becomes a titanic struggle with breathtaking reverses and changes of fortune. The entire nation is embroiled in the struggle. Actually, it's kind of fun, if you're interested in the beginnings of fandom.

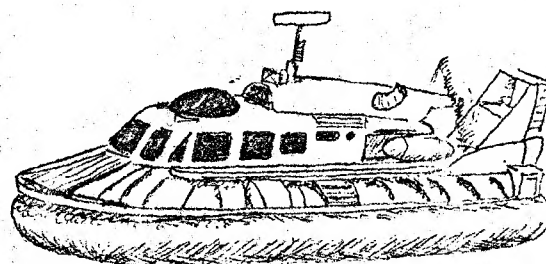
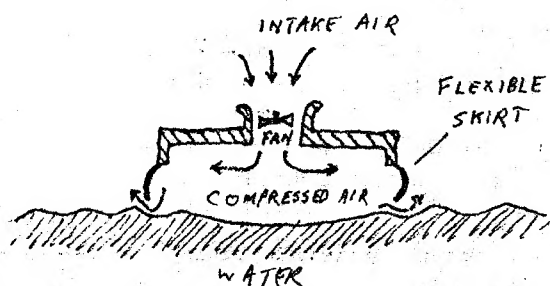
Of course, one cannot take all this as seriously as Moskowitz does. Given that, a lot of information, a modicum of enjoyment, and a certain point of view can be gotten from the book. I don't find it unreadable; a little work is all it takes. Nevertheless, it's pretty much for dedicated history enthusiasts only. I wish Sam had abandoned his stiff collar, and moved toward the breezy approach taken by Pohl in his own book; then we might have had a warmer, more interesting book.

(Next stop: Ralph 124C 41+!)

Mailing Comments

Paul-- Re yr ct Bill L.: Even after all these years my reaction to the Underdog show is incredulity that it should have come from the same shop that produced Bullwinkle, Hoppity Hooper, and George of the Jungle. It just doesn't seem very funny. Tennessee Tuxedo was only marginally better. // Your splendid daily cartoons might have helped you ease into being one of the fannish gang around Chicago ("Us," as you put it), but I think you would also have done just fine without them. // I read the second word of your phrase "Doctor Whozines" carelessly as "Whoziness," presumably a quality possessed by a fan emulating the good Doctor... // I'm not sure about your cartoon of Owl dressed as Doctor Who. Would he really dress up? Piglet, certainly. Eeyore, possibly.

"Are there practical hovercraft?" Sure nuff. Sir Christopher Cockerell is generally credited with the invention of Hovercraft (tm) or air cushion vehicles. He designed the saucerlike SR.N1, which crossed the English Channel on 25 July 1959 at a height of six to nine inches. The hovercraft compresses air into a chamber that extends over its entire underside. Maybe you can think of it as a tire with a hole on the bottom. The layer of air supports the vessel and provides a low-friction ride as long, of course, as the fan can pump air in faster than it escapes from the sides. The introduction of a flexible rubber skirt around the edge of the vehicle improved cruising heights to several feet instead of several inches.



BRITISH HOVERCRAFT CORPORATION
SR.N5

Great Britain has retained its dominance in the field, but ACVs are built in many countries. Oddly, little has been done in the USA, though we tried six ACVs in Vietnam and the Navy has ordered a large landing craft from Bell.

The machines can go swiftly over land, water, or ice (a boon in Arctic regions). They are typically driven and steered by propellers, water jets, or wheels. They're mechanically complicated and guzzle fuel, but get more efficient as they get bigger.

I'd estimate that there are several hundred major hovercraft in the world, as well as some air-cushion trains and personal sportcraft. The biggest, the SR.N4, has ferried hundreds of thousands of cars across the English Channel since 1969. They're in military use for all sorts of purposes, from patrol boats to rescue to light cargo. Large towed cargo platforms are used by oil companies and such. Planes with air-cushion landing gear have been tested, but aren't in service.

Most techish kiddies in the 1960's were exposed to a lot of talk about hovercraft along with moon flights and lasers. (Recall that the youthful hero of Clarke's splendid Dolphin Island stows away on one.) So I'm kinda disappointed that there aren't more on the scene, especially where we can see and ride on them. It is one of my dissatisfactions with not living in The 1980's we were led to expect.

Die England-Linie der Individualisten.

Ein Grund mehr für den Urlaub „zwischen durch“

40 Minuten brauchen unsere Hovercrafts, um Sie, Ihre Familie und Ihr Auto über den Kanal zu fliegen. Hoch ist das Tempo — aber nicht der Preis. Und dazu gibt's noch eine Reihe

anderer handfester Vorteile. Befragen Sie einfach mal Ihren Kalender nach dem nächsten verlängerten Wochenende. (Oder Ihre Frau.) Das Pfund ist sehr einkaufsfreundlich.



Hoverlloyd's unschlagbare Vorteile - vergleichen Sie!

- **Preis:** Ob allein im Auto oder zu fünf! — der Preis ist derselbe, z. B. VW Golf DM 110.- oder BMW 525 DM 167.-. Und die D-Mark ist in England besonders viel wert.
- **Fahrplan:** Bis zu 20 Flüge in beiden Richtungen täglich, im Winter mindestens vier. Tägliche Schnellbus-Verbindungen Brüssel — London und Paris — London.

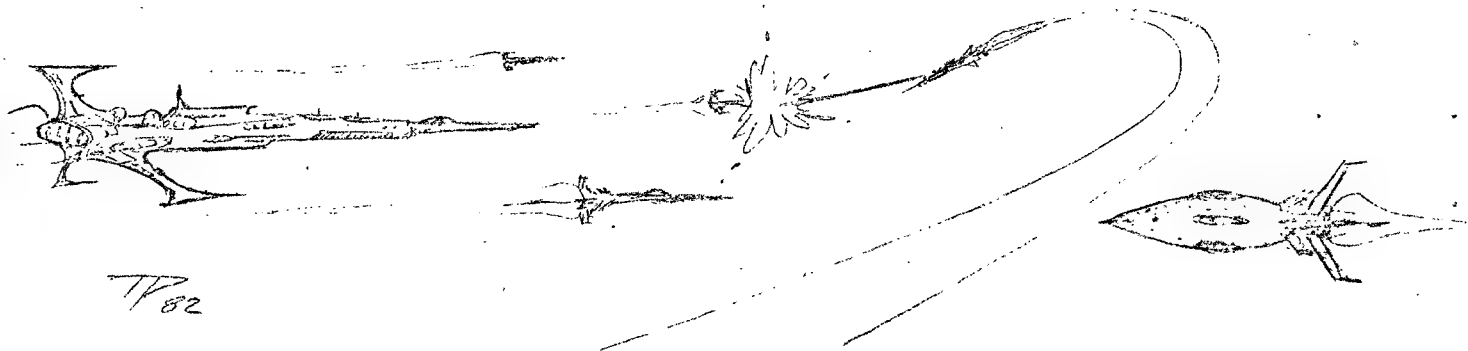
- **Tempo:** Schneller Flug: 40 Minuten. Schnellste Abwicklung in Calais und im eigenen Terminal in Ramsgate: 80 Minuten nach dem Einchecken Weiterreise auf der anderen Seite.
- **Anschluß:** Direkteste, beste und am wenigsten befahrene Route Ramsgate — London.
- **Einkauf:** Zollfrei — auf dem Hovercraft und in beiden Terminals. Und das Pfund ist sehr einkaufsfreundlich.



HOVERLLOYD

Wann dürfen wir Sie an Bord begrüßen?

Wenden Sie sich an Ihre ADAC Geschäftsstelle
oder an Ihr Reisebüro oder an Hoverlloyd Ltd., Brüssel, 3 rue de Brabant.

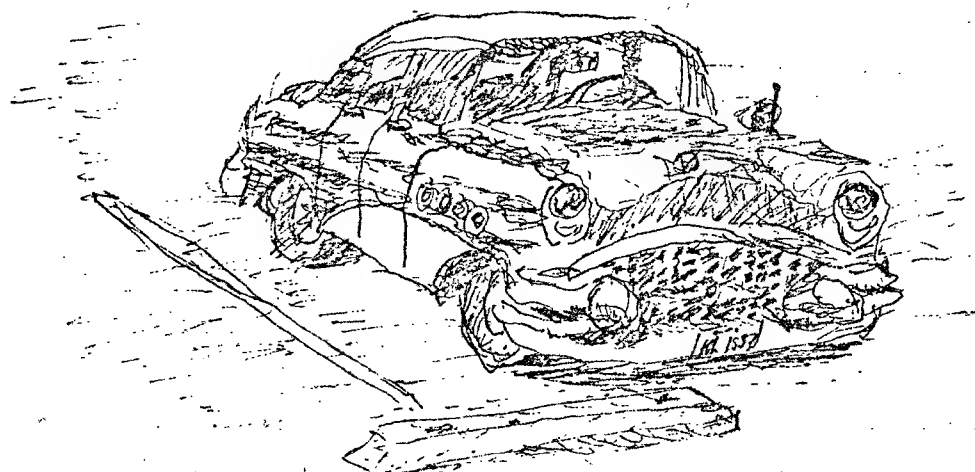


TP 82

Rod-- Altitudes less than several hundred miles will not make it easier, from an energy or velocity standpoint, to get into orbit or escape. However, the value of Skyhooks, Rockoons, the B-52 launches of the X-15, and so forth, is in getting the rocket above a lot of the atmosphere. It is much easier to design an efficient rocket engine to work over a small range of external air pressures than to function both at sea level and in vacuum. (This is one, if not the greatest, of the difficulties faced by designers of the Shuttle main engines.) For a good discussion of propulsion I again recommend Ley's Rockets, Missiles, and Space Travel.

Without having done calculations (yet) I feel that bombing Mars with asteroids won't be energy-efficient, because it will take a pretty good wallop to move them out of their own orbits. The guys who move them must somehow supply all that energy. Increasing the sunlight falling on the planet is much more attractive, since it only involves the cost of mirrors and maintenance. However, any massive shortages of material (such as the nitrogen bottleneck I discussed) would probably be made up best by the asteroid method.

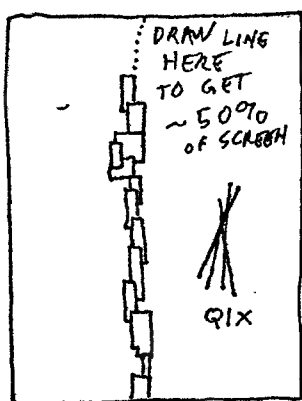
Dick-- Sorry to have dumped that zine on you at the last minute. Thanks again for the favor. // Cosmos drew inspiration from, and paid explicit homage to, science fiction (not to mention stealing some of our best astronomical artists like Sternbach and Miller). What mentions there are of SF and fantasy in Soul of a New Machine are peripheral, and strongly tied to the interests of the people the book is about.



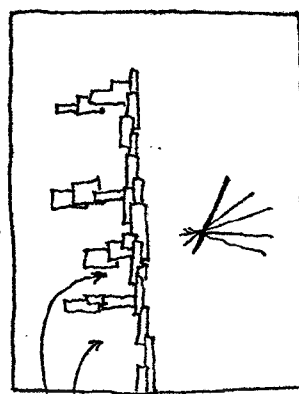
BUICK

BUICK ROADMASTER
25 NOV 1981

Greg-- Glad you've discovered the video game "Qix." I may be on the verge of getting obsessed with it-- heaven knows I pumped enough tokens into it at the arcade in Kalamazoo, during the Isher birthday expedition. I have been heard raving about "pure video" and "it's just geometry!" in local hangouts. One thing I've noticed that you might want to try is that the Qix (the colored lines) can get trapped in a very small space if the boundary is very "toothy." By this I mean that there are a lot of projections or overhangs defining fairly small cul-de-sacs. If the Qix do get trapped in such a spot, you may pull a coup and rule off a very big section of the rest of the board. The strategy might be to draw the usual barrier most of the way up the center, then start drawing this



NORMAL
STRATEGY



TRAP QIX
IN THESE
REGIONS

comblike pattern all the way down the side the Qix isn't on. You can then wait for it to cross over to this side of the screen through the small open space at the top, and when it gets trapped you can draw your conquering line...

I don't follow where you got your figures on how many days from a node passage an eclipse can occur. Does this perhaps follow from the angular sizes of the Earth and Moon's shadows? // About 10% Dyson spheres: If Dyson's original Malthusian argument holds (and I'm not saying it does), a 10%-coverage sphere would not have a long lifetime. Soon enough expanding energy demands would force it to become a 20% sphere, which would be easier to detect from interstellar distances. In fact it seems that a society capable of 10% spheres would construct the limiting case-- a nearly 100%-coverage sphere-- in only millenia or less, provided you believe that they can always find a need for the extra energy. What factors might limit this expansion? How would you budget sphere energy to leave enough energy to construct the next phase, when you need it?

Mike B.-- Yrct re New York: "...the permanent traffic jam atmosphere that lingers everywhere like permafrost in upper Canada." Yes. Yes. I felt it too. // Can we expect mimeographed zines from you soon? Maybe you'll contribute to WOOF this year, and confuse the hell out of everybody except the other Mike Bentley.// Patchin Review 3 just came out, and it fails to say anything derogatory about Jeff Duntemann. or even mention him at all. Tell him I think he should write a letter of protest. I really liked the Budrys piece in 2.



Dave (yeah, I finally found your last postmailing)-- There are a lot of a's in Chambana, but there are even more in Champaign-Urbana. And they got an awful lot of coffee in Brazil.// Timescape is about time communication in the same way as Michaelmas is about artificial intelligence. That is, temporal communication is the center of the plot, but not of the novel. Thus it does not do "the same thing" as Thrice upon a Time; with due respect to your friend Donigan, that is the remark of a Philistine. The novel has plenty of flaws, but I still consider it the best of 1980 and well deserving of its Nebula.

Anthony Villiers is the protagonist of a series of Alexei Panshin novels, much beloved by certain Chicago fen: Star Well, The Thurb Revolution, and Masque World. The books are low-key but well crafted. // One point seven cent offset? (try saying that three times real fast) Pant, pant....

Misha-- Do you hold the apa record for changes of address?

Valli-- I lost the last few lines of your sidewaysine in the staples. // Do bartenders wipe eye tracks off their TV sets after everybody has gone home?

Keith-- Re Watt, allow me to quote from Molly Ivins, writing in the Winter 1981 CoEvolution Quarterly:

"Not since Kissinger, not since Nixon, has there been an organizing principle like James Watt about. The membership of every environmentalist group in the country is booming. The money is rolling in. Every time the man says he wants to pave over the national parks, mow down the mountains, dam up the rivers, and let Exxon lay waste to the wilderness, the Sierra Club wallows in gravy. I find it hard to believe the man is not in the pay of the Friends of the Earth."

Michigan State in '88! Brings back memories of Procrasticon I, doesn't it? (We've postponed Procrasticon II indefinitely, folks.) Chairing the "Zeppelins in SF" panel. Doc Savage. Annoyatrone... // I think your MCs could profit from the use of slashes or other delimiters between unrelated comments. Otherwise your prose, like mine, appears slightly mad.

Jeff-- What I like about the Cerebus collections is Dave Sim's discussion of technique preceding each episode. One can watch him groping his way toward a successful book as the characters and his style develop together. // I look forward to your longer zine.

Jamie-- How did I manage to overlook your pleas all this time? Most of these mysterious pseudonyms come from John Brunner's Stand on Zanzibar, a very interesting late-sixties product. General Technics is a multinational conglomerate with fingers, of course, in every industrial and financial pie. Its chairman is the ancient and irascible Georgette Tallon Buckfast, "Old G.T." Shalmaneser is GT's intelligent superconducting computer. When a GT apa was started, you can see that it was logical to name the editorial positions after these characters. I can't tell you any more about Inigo Montoya than that he comes from The Princess Bride. Ask Marty.

Kosta Tsipis had a Scientific American article a couple months back which discussed big chemical lasers in space. He managed to disprove the notion that they'd make ICBMs obsolete, but stopped quite short of showing that they weren't an effective space-to-space weapon. And I bet I could get a factor of five out of his estimates without even trying. // I'm almost afraid to ask this question-- but what is a "follower of Wicce?" Or am I better off not knowing? // I'm not convinced that we couldn't have artwork in a computer-based zine-- but it would have to be typewriter art. It's a challenge.

Question for you and Mike Bentley: Are you guys beginning a VAX-vs.-iAPX432 feud? Whether you are or not, the discussion may go over the heads of the rest of us. Just what does Mike object to about the VAX? Could you two explain its major architectural features in simple language to the rest of us? How does it compare to the PDP-11? Is the VAX more soporific than comparable machines on the market (for after all, the 432 has yet to prove itself as the heart of a successful commercial machine)?

Yeah, the filmless camera only makes sense for people who need low-resolution pictures but need them instantly, like press photographers. It's a kind of still TV. But have you considered getting your home computer to "read" your Mavica photos? I would be greatly intrigued with the possibilities of doing image processing on small systems, without an expensive TV camera and frame grabber setup. // I have a sneaking fondness for the sin of commenting on this mailing's zines in your postmailing, though I've never had an opportunity to commit it myself. // Your slugthrower vs. energy weapon argument, even in the rough outline you give, makes good sense to me.

I GET A REAL BAD FEELING ABOUT THIS...
CLIF FLYNT
6564 E. MICHIGAN AVE.
SALINE, MI 48176

I'LL START THIS SUBMISSION BY EXPLAINING THAT TITLE... YOU SEE, I'M WRITING THIS APA BECAUSE MY GOOD BUDDY BILL (ROPER) SUGGESTED TO ME THAT IT WOULD BE A GOOD IDEA. THE LAST TIME I TOOK MY GOOD BUDDY BILL'S ADVICE, I ENDED UP WITH A PIZZA IN MY LAP. THE TIME BEFORE THAT, MY GOOD BUDDY BILL SUGGESTED THAT WE TAKE OUR GUITARS TO AN INSULT CONTEST, AND I WON... A WHIPPED CREAM PIE, WIELDED BY THE JUDGES I'D JUST BEEN INSULTING.

THIS CAUSES ME A LITTLE TREPIDATION WHEN FOLLOWING BILL'S ADVICE. ON THE OTHER HAND, I'D PICKED UP THE APA-TECH FLYER LONG BEFORE BILL SUGGESTED I SUBMIT TO IT.

NOT HAVING READ PREVIOUS APA'S I CAN'T RESPOND TO PREVIOUS CONTRIBUTIONS, (ACTUALLY, I SCANNED A COUPLE OF BILL'S, AND I'LL THROW IN MY TWO BITS WHERE THEY SEEM TO FIT). THEREFORE, I WILL USE THIS TO DESCRIBE MY INTERESTS A LITTLE, AND LET PEOPLE KNOW WHAT SUBJECTS WILL GET ME OFF ON A TIRADE.

BILL'S PARTIAL INTEREST IN GETTING ME INTO THE APA IS SO THAT HE WON'T BE THE ONLY CHEMIST HERE. ACTUALLY, I'M NO MORE A CHEMIST ANY MORE THAN BILL, I HAVEN'T BEEN IN A LAB FOR ABOUT 2 YEARS. NOW, I'M A COMPUTER PROGRAMMER. (SEE, NEAT, JUSTIFIED RIGHT HAND MARGINS, AND UTTERLY ILLEGIBLE DOT MATRIX TYPE)

THIS IS WHERE I CLIMB ON A SOAP-BOX. IN THE ONE ISSUE OF APA-TECH I READ I NOTICED A COUPLE BITS OF ARGUMENT ABOUT PROGRAMMERS VERSUS REAL PEOPLE. ONE OF THE THINGS THAT KEEPS ME IN THIS FIELD (AND NOT CHEMISTRY) IS THE FACT THAT PROGRAMMERS ARE MORE FUN THAN CHEMISTS. I FOUND FEW CHEMISTS THAT READ SF EITHER IN UNIVERSITY RESEARCH, OR IN INDUSTRIAL LABS. IN FACT, IT WAS CONSIDERED A RATHER DUBIOUS LACK OF CONNECTION WITH REALITY. PEOPLE WHO READ SF PROBABLY BELIEVE IN PYRAMID POWER, THE AMAZING KRESKIN, AND DEFINITELY CAN'T BE EXPECTED TO TAKE RELIABLE OBSERVATIONS.

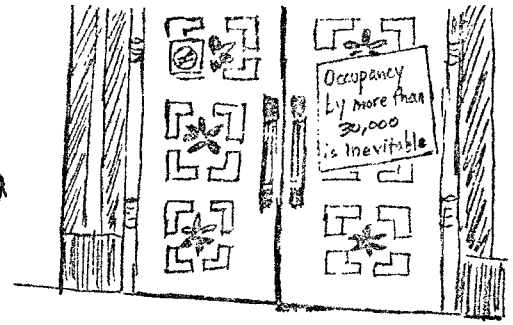
WHERE I'M WORKING NOW, AND WHERE I START ON APRIL FOOLS DAY, THERE ARE OTHER HARD-CORE FANS, AND A FEW OTHER READERS. REAL PEOPLE!!

THIS IS NOT TO SAY THAT PEOPLE WHO DON'T READ SF AREN'T REAL, BUT I SOMETIMES SUSPECT THAT THEY AREN'T AS REAL AS THEY COULD BE. I KNOW THAT THEY AREN'T AS EASY TO TALK TO (MY PROBLEM I SUPPOSE, I SHOULDN'T THROW LITERARY REFERENCES INTO MY CONVERSATION AND EXPECT PEOPLE TO CATCH THEM AND UNDERSTAND.). SF READERS SEEM TO CATCH MORE OF THE OBSCURE REFERENCES THAN THE AVERAGE TV WATCHER ON THE STREET.

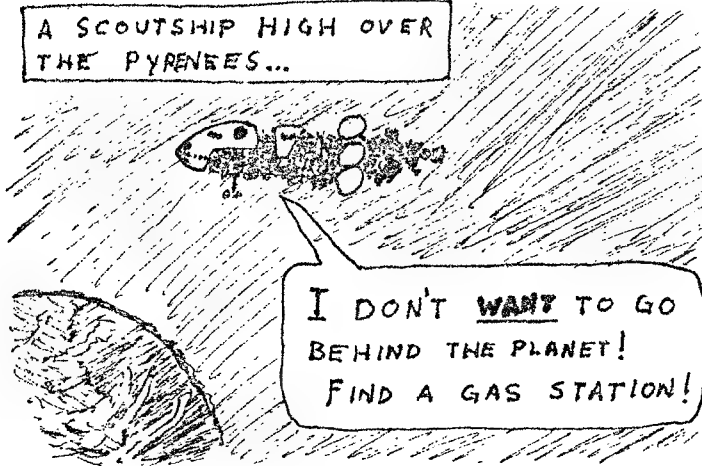
I SEE I'M ABOUT OF SPACE, SO I'LL JUST MENTION THAT I FILK, AND SEE IF I CAN GET ONTO THE SYSTEM I SHOULD BE WORKING ON, INSTEAD OF TYPING AN APA.

LAST OF JANUARY Productions PRESENTS Amidst Confusion

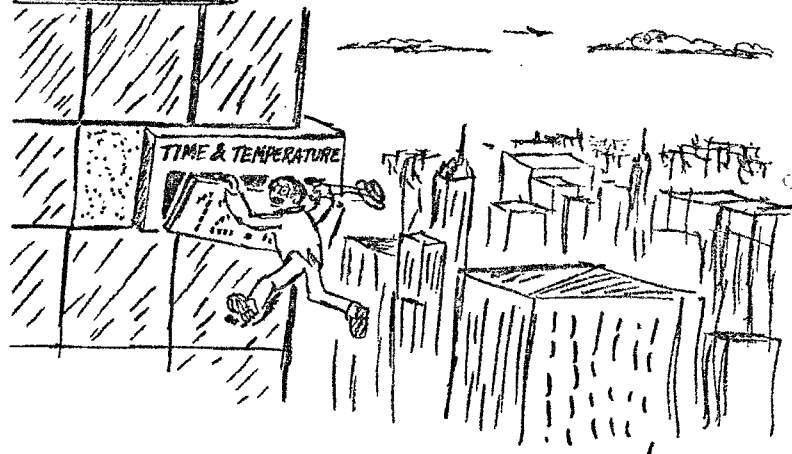
NIGHT. A SOFA SOMEWHERE IN THE
MIDWEST...



A SCOUTSHIP HIGH OVER
THE PYRENEES...



WHILE DOWNTOWN...



GET THAT OUT OF HERE!
DON'T YOU KNOW THERE'S
NO CRASHING ALLOWED
IN THE CON SUITE?

DING, DONG,
THE
UNICORN
IS
DEAD...

THE NEXT MORNING~

Who's holding
the Computer Room?

Collect all the neckties and dip
them in ink for ribbons...

With Jello we can
make a hectograph!

We have a
Thermofax!!

Car hoods can
make good sleds...

Where's a stationery store?

Cashier



I wouldn't bother waiting
for the other one to drop...



B. Cloutier ©1982 under protest graphics.

SAUNA

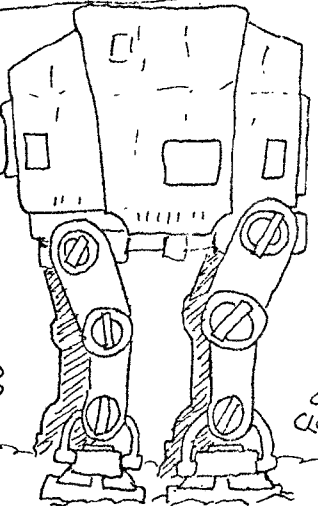
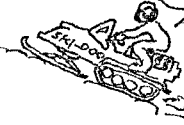


SECURITY UNIT 12,
INVESTIGATE
REPORT OF ABOMINABLE
SNOWMAN IN POOL AREA

CLOSING HIGHWAYS CAUSES FEW
PROBLEMS FOR FANS...

I JUST LOVE
OFF-ROADING!

ARG!



CHRIS
CLOUTIER

SHE REALLY
GETS INTO
PLAYING THE
KAZOO, DOESN'T
SHE?

CATCHER IN
THE HAT
HEART OUT,
JOHN COLTRANE



LITTLE DID THE
TEENIES DREAM
THAT THEIR INNOCENT
FILM WOULD BE
RUINED BY A PUDDLE
OF MALEVOLENT
WATER - - - - -

HEH HEH!

Cecile Cloutier



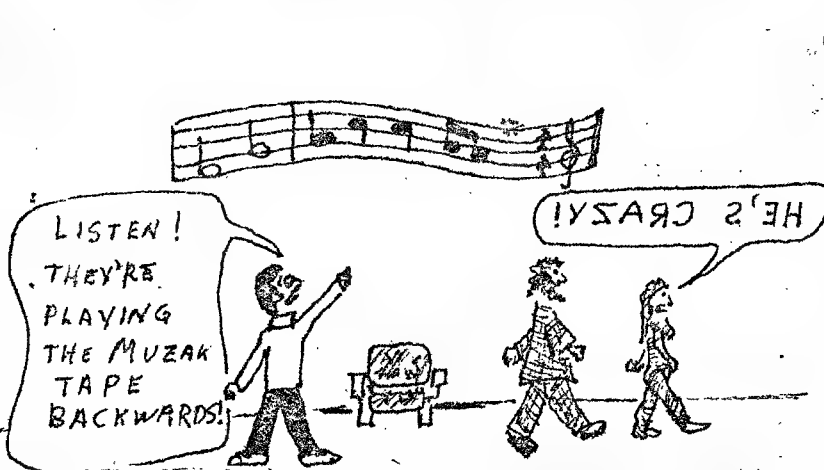
BEN!
BEN!



1/82

1/82





GOOD DAY.
THE TOPIC FOR
TODAY IS
SAUNAS

GREAT
WHITE
NORTH

How's IT
GOIN', EH?

AND, IN ROOM 1781...

I MEAN, LOOK,
GUYS, THIS IS
OUR CHANCE—
TOMORROW MORNING,
WE CAN SET UP THE
ANARCHO-LIBERTARIAN
COMMUNE WE'VE
ALWAYS WANTED!

WE JUST HAVE TO
STAY CUT OFF! SO
WE SEND AN ASSAULT
PARTY DOWN TO TAKE
OUT THE HOTEL DESK
BEFORE THE DAY
SHIFT SHOWS UP!

OH, YA, IS THE
WEAPONS
POLICY STILL
IN EFFECT?

SD 1/31/82



February 1st...

Cashier

Well, um... Gosh! This layover
has caught me a bit short...

Will you take a first edition of...

And a Dickinson starscape?

Okagokay—and five pounds of
raw fish!

NO.

NO.

NO.

DONE.

Games room
closed until
further notice

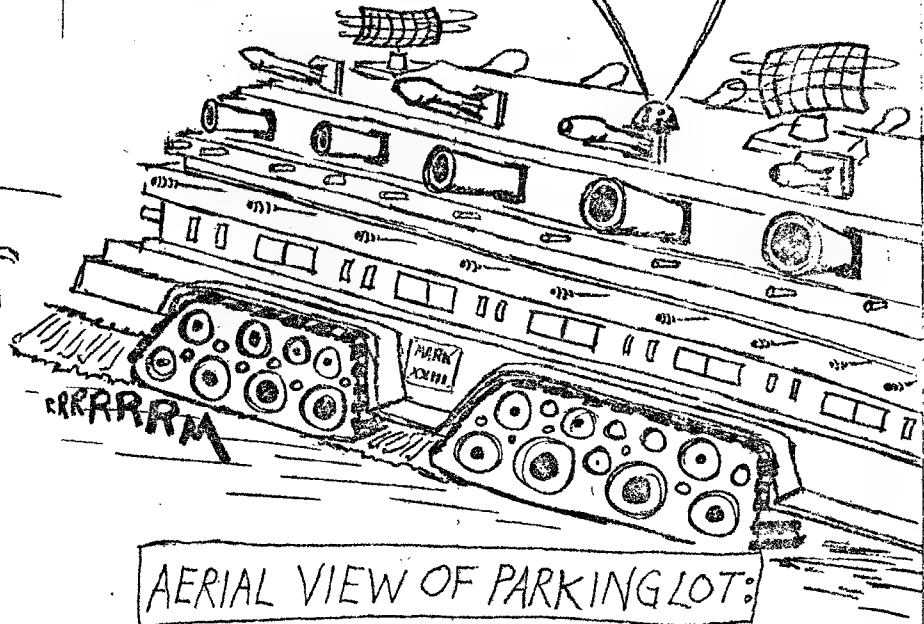
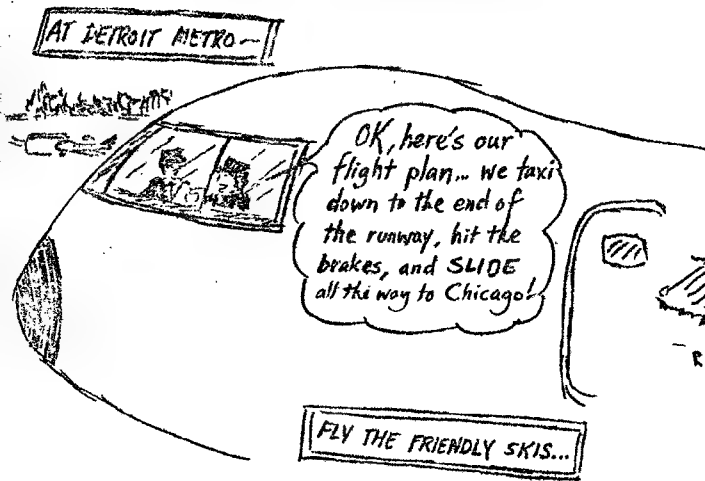
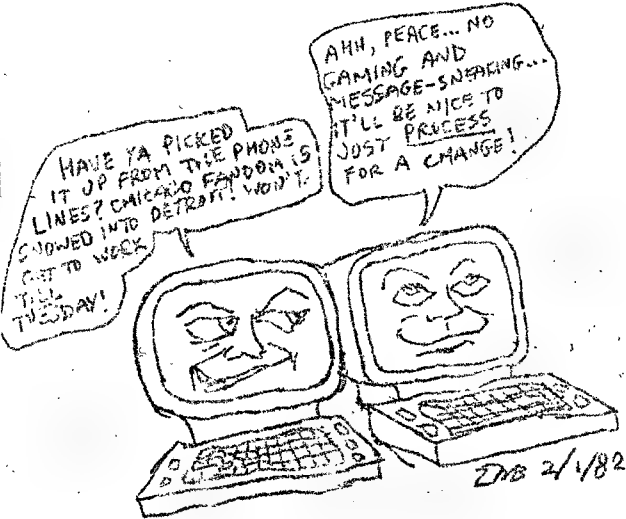
He got off easy—the night staff
wanted EIGHT walrus hides...

THE MANAGER OF THE HOTEL
SAYS WE CAN PARTY AS
LATE AS WE WANT
AS LONG AS WE
KEEP IT QUIET

WHAT'S IT
TO HIM
ANYWAY?

HE'S
SLEEPING
NEXT
DOOR

MONDAY MORNING OF the CON



CHRIS CLOUTIER

Young And Abroad in the Solar System

Here I go again, I being Michael (aka Misha) Sestak of that nefarious hole in the wall po Box 1866 Fort Collins Colorado 80522 or should you choose to appear in person 2025 N. College #57 same city 80524 or should you want to watch me work Earth Resources Department, Colorado State University 80523 (why bother with 9 digit zips, I've already got 3 of the old ones?)

Well, tomorrow I should be sending out last month's postmailing and here I am already typing for #17. All this is made possible by the incredible generosity in the face of harrassment and procrastination of mine by our dear OE Renee. I am typing this now so no lapse like the last has a chance to take root. In fact, I left some nonsense out of the postmail specifically so I would have enough rubbish to make this contrib possible.

For example, I neglected to mention a good part of why the postmail was so late or the related subject of production technique. My Centronics printer needs work and I just didn't get around to sending it to Denver so the whole thing had to be typerewritten from bad printer copies. I dislike the way my monster Olivetti has been working lately as well, so in October I bought a little old Underwood-Olivetti manual portable typer for \$10 at an auction and that is what this and the postmail are written on. Reproduction is by my old favorite Autsy copy where I get offset at 3.3¢ per side for back to back copy on a run of 35. They do photocopy too at essentially the same price, but their machines haven't been giving great copy lately and I just have to wait overnight for offset.

I have been receiving some really strange and delightful mail lately from a place called Statesboro, Georgia. I am very pleased to report that Kip Williams and his wife Cathy Doyle are both alive and uprourous. Chances are those of you who know Kip will at least be getting a copy of his mundanezine even if he doesn't do an APA-TECH zine.

Since I won't have to send this in for a couple weeks I'll insert notes as I go along on how well a person who's been out of it for almost five years manages in returning to the trials (like registration) and tribulations (like finding classrooms) of being a student once more. Now on to mailing comments.

COVER I take it this is to be the new APA-Tech distribution system. Perhaps we could solve the deadline problem by using this system to get all the members together then we wouldn't need to write for the APA.

CHAIR Thank you for not ranting and raving. I've been ever so good Auntie Gee Tee. I sent out my post-post-postmail and this contrib will be sent out on time, really it will.

I don't know if you ever watch such twat stuff as NBC Magazine, (I don't usually but I rarely have a TV schedule so before turning the machine off after watching something intentionally, I switch through the channels to see if there's anything else). Last week I happened to notice a bit on there about modern weather forecasting which was fair so I watched it, then after that they started a review of my favorite TV station KBDI in Broomfield, Colorado. It's practically a techie setup from a hardware standpoint with a donated just post world war two era transmitter with a few more recent upgrades. The NBC reviewer really blasted them because of the quality and peculiar bent of their local programming (home movies and a very sexually oriented show called Video West). But the point is they are an independent public station and therefore not overloded with either commercials or top heavy PBS shows but rather things suggested by the viewers such as Burns and Allen, Twilight Zone, Have Gun Will Travel, Alfred Hitchcock Presents, lots of old movies and during their last pledge drive instead of National Geographic (which even I can tire of) they did a night of Beatles movies. The other night they had a more ordinary documentary about women's suffrage, though. I am appalled. None of the womens' rights advocates of today are doing half of what Elisabeth Stanton and Susan B. Anthony did. I don't know if the ERA would have any better chance of passing if p people of their calibre were around today, but I can guarantee it would not die the whimpering death it is seeing now. Funny thing but there is little in the history textbooks to indicate that these two worked for black and women's vote before the Fourteenth Ammendment was passed, meaning that both could have been in the same ammendment. They went out to the new western states which were putting black and women's rights on the ballot and lobbying for their passage. They spoke to the voters, men, many quite strongly oposed to any thought of their ideas. Today most advocates speek to women's caucuses and women's rights rallies. They should speak at corporate meetings, and all the other places they don't belong. Those are the people they should want to convince and those are the rights that are being sought and those are ultimately the people who can give the rights to them. Either that or go back to being content to knowing that your husband votes the way you want him to so why do you need the vote. That is all women can accomplish cheering each other on.

Time for a new subject before a hit woman is dispatched to my poor innocent little trailer. I don't care wether you like it, despite 80mph winds, snow and occasional sub zero temperatures my new habitat is just fine and cheap. I won't even invite you to visit if you don't want to (stay permanently, now that is a different matter). My biggest problem is the speed bumps in the park roads. Its hard to get people to come back after they've tortured their cars with them once. Really some are more like curbs than mere warnings to slow down. I think I saw a kid testing a sled on one after Christmas.

Well, I said I would get this in on time and here the deadline is staring me dead in the face and I better get down to it.

SING HO I am both blessed and damned with one of the best and worst situations ever for watching Dr. Who. Every Sunday morning channel 6 (the regular PBS station in Denver) runs an entire Who episode. not just one part, the whole four, five or six part series. Aside from this being really hard on the bladder with no commercials, I have another problem to grace this blessing. Since leaving my beautiful little house with it's huge roof-mounted TV antenna for a squatty little trailer with squatty little antenna I can only just receive channel six. In fact, most of the time the system needs the boost of my personal body as assistant antenna to get good reception. Is the Doctor really worth squatting by an X-ray source holding antenna leads for 2 hours or so?

TRANSPORTER Somewhere in the junk I hauled away from JSC is a Lockheed trade magazine with an article about their proposed hydrogen fueled hypersonic (mach 6 approx) transport. That should get you above enough atmosphere for pretty efficient rocket launching.

My guess about the laser wound (if the facts are right) is that it is a matter of power and focus. As far as I know, laser surgery is only done on a small scale, that is making small cuts or "welds". Eye surgery and removal of hard to get at tumors come to mind. Also, the designers of an industrial laser wouldn't care too much if the edges of the hole they were punching got a little warm because of not exactly perfect beam focus, surgeons working with pinpoint precision on living tissue more likely would.

TAILFINS Glutton! Now I don't really want you to minac after 17 pages but for the sake of my aching empathic fingers, could you trim that back from now on. This isn't the 40's where one author did half the stories in any issue of one of the pulps (you didn't break it into a bunch of little installments and use a lot of pseudonyms, anyway).

This has been a wretched year for novels. I don't have any Hugo nominations in that category (it was a year like this that sparked the No Award addition to the ballot). I have been getting to my backlog of books from previous years as a result, though. From 1978 there is an outrageous book called And Having Writ... by some Donald R. Benson. It's about the aliens that landed in 1908 instead of flattening a Siberian forest near Tunguska and the alternate world thus created. The historical details may not be researched with the thoroughness of a de Camp but the story and characters of teddy Roosevelt, Tomas Edison, H. G. Wells and others are done very effectively. Nonfiction, a catch-all yes, but I have a genuine preference here. After Man by Douglas Dixon is speculative science rather than speculative fiction. What better choice. As Desmond Morris says in the introduction, every biologist, surely, once understanding the mechanism of evolution and time scope of action of evolution must wonder what it will produce in the future.

Since once upon a time before I started roaming among whatever was paying in science I was taught biology, I agree with the above thought. The book could perhaps use a little boost in imagination, though. A little of the Hall/Clement spirit. I don't necessarily agree with the author that man is apparently a transitory creature. But he has certainly changed the planet already that for him to depart as a significant species he would not just leave the gaps in the ecosystem he has created by predation as his legacy. In many areas he has created whole new niches for evolution to move into as well. Thus, rats wouldn't just evolve to fill the space of missing wolves (which aren't quite extinct anyway and could probably rebound and diversify quite well themselves without ranchers around). Something would find a home among and a use for the vast stretches of eroded highway material, after all there is so much of it. Maybe a burrowing animal or termite type would use it to fortify its nest. Imagine landing on a planet and finding the gophers living in concrete bunkers.

Oh, well, more nominations. Best dramatic presentation. I don't know if they should get the Hugo, but I'd nominate the JPL coverage of the Voyager fly-by. They did a good job for a bunch of guys in white lab coats!

Other categories I haven't been keeping up with and will make no comment on, not even fanzines.

Your "Mr. Steppington" TV blurb reminds me of a question I have for Mr. Trivia. The other night I happened to catch a very late movie, "Mr. Blandings Builds His Dream House." By a unique coincidence I found the book from which this was made in a used book store a couple days later. Now maybe it wasn't such a coincidence. The blurb on the back of the dust jacket said the literary world was glad to have Mr. Hodgkins (the author) back in fiction after a stint in scientific popularization. Might those have been some very entertaining tales of Maxwell's Demons I read at about the age of twelve?

CORONA No real comments this time, sad but true. I've already said my spiel about Hugo nominees.

DR. GONZO Each of the two shuttle flights I was asked by people at work what was going on when there were reports of delays and/or problems. I didn't always even know, but having worked and knowing I have an above average interest in such things people just naturally expected I'd know more than they did. But to me the important thing is they wanted to know. I like your bar crowd. They weren't surprised either that people would be interested in this one event. Americans are still proud of Tom Edison and his ilk.

Ah, but just look, only the really rabid people who live with their techish jobs have more tech stuff in their apa contribs than everyday ramblings. Some peoples ramblings, techish or not better continue or we'll never show them how to make a blinkie!

FANCHILD I don't really hiking. I did a fair amount of that including some in the mountains in my teens. Now I would much rather bicycle. True, there aren't many roads to mountain peaks but you can travel a lot farther and have time to stop to hike if

something really looks worth the trouble. Now that I am back in Colorado I'll try to get back in shape for at least one trip to Laramie in the summer. It's only about 65 miles from Fort Collins which is a distance I could make easily in the flat lands around Houston. The trouble is Fort Collins is at about 5000 feet and Laramie 7200 feet with a pass at almost 10,000 feet between.

Your flier isn't that outrageous. Think of all the notable men and writers who have trucked through that campus at one time or another. In fact, don't let Marty Masoglia ever see that. He might like it and who knows what would happen then.

GENERAL TECHTONICS Nonsense, nothing is worse than typing at a Cyber. After the first two shuttle flights I would say there is much less chance of a catastrophe with it than Apollo. Unfortunately, it also seems unlikely the current design will ever work as much like the great airline to the sky as had been hoped (the airlines which were offering to take over the operation of the shuttle when such routine operations began are probably also disappointed).

ORBITAL I can think of one reason to build a more or less portable energy weapon. Ballistics and rifle scoring tests can do a pretty good job of tracing a slug to the gun if both are available. How do you trace a particular pattern of fried flesh to my energy thrower? Of course, if I've got the only one in town there aren't many questions. By the way I am not responsible for the lab sign. Also, it's funny but if people are so paranoid about lasers then why aren't there safeguards to protect people from the beam in automatic scanners in grocery store checkout counters. While standing in line I've had the beam reflected off cans into my face and it is at least as strong as any Tullio has built. I suppose stores get enough resistance to the system without people seeing Caution: Laser on the checkout counter.

SINGULARITY I think my life has become random enough without a random apa. Since returning to school I have learned many things. I hate homework even more than before and don't know why those thousands of students don't band together and revolt against it. I learned that once in a while "they" are right. They said high school would be different than the lower grades and I'd have to learn to take notes and pay attention. I read more SF during high school classes than any other time. They said the same thing about college only worse and I'd be graded on a curve and maybe find I wasn't so smart. All my notes from college, even into graduate school to get my masters would probably fit in a shoe box (ok so I wear big shoes). They said going back to school after being out for several years would be tough. They were right. If I'm not up studying, I will try to put some of your astronomical features to the test now that I have risen out of the swamps to an area where there are stars in the sky at night. Part of my interest in space and space travel was sparked as a kid because it was spent in this part of the country where even with my feeble eyesight constellations are readily apparent and the Milky Way is indeed a great band of white across the night sky that at high elevation on a clear night is obviously a cloud of stars most of which are too small to be seen individually, but some, almost...

MU BETAN Wishing much luck on the entrepreneuring (I'm certain that's misspelled but at 2 AM I'm not looking up anything). I didn't want to this close to Hugo time, but I guess I will make a few comments on fanzines. Long before my time these amateur magazines produced with much work and even more care though still by even poorer quality means than the pulp magazines they sought to emulate served to bind a group of people with a common interest in those strange pulp magazines mentioned above. Little did they know that they were creating a subculture. One which incidently has survived more or less intact through a world war, the rise and fall of beatniks, hippies and who knows what other subcultures. With scientific and technical progress (yep) these people could meet each other face-to-face more often and in larger groups. Fanzines were needed less except to spread the news about what the center of this growing groups interest (writers and such) were doing and what the farther flung fan groups were doing between conventions. The newszines did not outright kill off the old style fanzines any more than TV killed off newspapers and magazines in the other culture. They just became less important to the group as a whole though any one may be very important to a small subset (Pyro to GT). Meanwhile with the mass behind them the newszines became really slick. They still cater to the fan audience almost exclusively. Even a non-fan SF reader would not really get absorbed in a lot that is in Locus. In fact, it has gotten to the point where no matter how good any other type of fanzine is in quality of execution or content, it can't compete with the news types simply because of circulation when it comes to awards. With that fundamental change in the subculture that produces and reads fanzines, I can't see anyway to directly save the fanzine award category. Eliminate it and thus upgrade the fan artist and writer awards plus if you really like fanzines get in on the FAAN awards. It's a cruel world, but then the best pro magazine was changed to best pro editor in recognition that book and anthology editors are larger sellers than magazine editors (not that anyone but a magazine editor has won the award since the change, but it was made).

101 WAYS Your title is a forte of mine I think. I make a habit of commenting on all zines if it is at all possible. Sometimes, though, there is nothing in a particular contrib that I feel like commenting on at the moment (it takes a pretty strange or very short zine for there really to be nothing I could comment on). Then I try to find something to fill the space that says little more than, "I don't know...what to say, but you get 7 lines anyway."

BAGELS Hi Cap'n Al. It's about time you showed up. I'm running low on time and comments. It seems to me a more reasonable and pressing (though still military) use for plane launched satellites is spy gadgets. These are usually very low orbit and not very big anyway. Every time the Pentagon or some intelligence gets nervous about what's going on in some odd part of the world they send up one of these critters that make maybe half a dozen orbits over the target before re-entry. Plane launching might make for faster response to these "crises" and possibly easier targeting of orbit than a fixed launch site.

Teenage Heaven Highway

Dateline Confusion? I'm sitting in my room, trying to get my zine typed in time to give it to Ruffa before the con is done. I'm not doing too well, as there are far too many interesting distractions.

The distractions did me in. It's now many hours later, I'm in the lobby, watching the snow fall. As long as I'm at Confusion, I might as well give a

Confusion did not get off to an auspicious start for me. At 5:30 P. M. I picked up my passengers, Lisa Golladay, Mike Walsh, and Paul Gadzikowski at the Jefferson Park El Station, after which we had some trouble getting back onto the expressway. ~~XXXXXX~~ Westopped in Indiana for dinner and changed drivers. The trip continued without further incident until our driver learned about glare ice somewhere around Battle Creek. After that, the trip was uneventful, but slow.

At the con, several of us hit the con suite, where I spent several pleasant hours talking to people.

Saturday was spent wandering around the con, eating, swimming, and partying. I had a good deal of fun, but I'm going to leave it to others to tell you about the pool party, the masquerade, and dinner at the China Garden.

No more of that. ~~XXXX~~ Life in (introduce a sudden change in time and place
- - my apartment, over a week later) general is going well. No major changes
looming.

I need to do something to fill up the rest of this page, as I must get it out of this typewriter and write a speech for class. (Why did I ever decide to go to business school?) I think I've got just enough space to fit in some

Archipelago and The Devil is Dead by R. A. Lafferty: I'm tempted to try to get you to read these books without any warning. I can't quite do it. If you can't enjoy a book you don't fully understand, be careful. The characters in these books generally know what is going on better than the reader does. Each book contains references to the other. On the other hand, I rather enjoyed the confusion.

I'm going to have to cut this off here. I do have to get that speech typed, I'm not entirely sure what to say, and it's due tomorrow.

I'm running out of time, so I'll just run this test I ran across in here to finish this off.

This test does not measure your intelligence, fluency with words, or mathematical ability. It will, however, give you some measure of your mental flexibility and creativity. In the three years since the test was developed, few people were able to solve more than half of the questions on the very first try. Many reported getting answers long after the test had been put aside, particularly at unexpected moments when their minds were relaxed. Some reported solving all the questions over a period of several days. Take this as a personal challenge.

INSTRUCTIONS: Each "equation" has a number and the initials of words that will make the "equation" correct.

Example: $26 = L$ of the A would be $26 = \text{Letters of the Alphabet}$.

- A. $26 = L$ of the A (Letters of the Alphabet)
- B. $7 = W$ of the A W
- C. $1,001 = A N$
- D. $12 = S$ of the Z
- E. $54 = C$ in a D (with the J)
- F. $9 = P$ in the S S
- G. $88 = P K$
- H. $13 = S$ on the A F
- I. $32 = D F$ at which W F
- J. $18 = H$ on the G C
- K. $90 = D$ in a R A
- L. $200 = D$ to P G in M
- M. $8 = S$ on a S S
- N. $3 = B M$ (S H T R)
- O. $4 = Q$ in a G
- P. $24 = H$ in a D
- Q. $1 = W$ on a U
- R. $5 = D$ in a Z C
- S. $57 = H V$
- T. $11 = P$ on a F T
- U. $1000 = W$ that a P is W
- V. $29 = D$ in F in a L Y
- W. $64 = S$ on a C B
- X. $40 = D$ and N of the G F
- Y. $32 = C M$
- Z. $13 = B D$

Well, that's all for this time. Next time I'll include the solutions.

Jerry

the Romorphic Mélange

27 January 1982 for AFA-TECH 17

the
ALEATORIC
Affair!

being an occasional supplement to *The Quintessential Singularity*
produced by the Department of Public Information, Ossa-on-Polion, Inc.
C. Ruffa, Department Head and Mouseherd



Transporter Topics: [P₂] -- I think we may be talking past one another. The analysis I gave a while back provides the fuel-to-payload ratios necessary to attain orbit without atmospheric resistance; punching through the first 20 miles or so from the surface costs even more. I can bring myself to believe that a rather small payload (say, on the order of 100 kg.) could be lofted into orbit from an airborne launcher, but a whole rocket plane with a passenger is going to need a sizeable booster. Even above 95% of the atmosphere, the velocity change to attain orbit is still going to be over 5 km/sec.

I understand the design scheme of your "bucket worlds." I still don't see any advantage to building such a huge system over simply spinning up isolated asteroids and living INSIDE them. Why bother drawing scruit into tens of millions of kilometers of cable?

Dr. Gonzo's Electric Evergreen: [P₁] -- I saw the second Shuttle landing with my folks in the Woodbridge shopping mall. We were wondering why all these people in Ohrbach's were gathered around the TV display, until we saw the screens: THREE DOZEN perfect landings! The crowd cheered. The atmosphere was rather different from my viewing of the first landing, at work, amidst the great interest and amused remarks of the technical crew...

My Blood Runs Cold: [P₁] -- Ah yes, the eternal moral conflict between the Individual and Society... Plainly, 'they' miss the point as completely as those who say one should do whatever one likes (as long as no one gets hurt). Without continuing to drone on about a point I may have stated before, I see the history of Western civilization as a continuing trend toward increasing power and freedom for the individual. Unfortunately, we have as yet made little effort to educate people about the responsibilities incurred by that power. We need to find ways for people to find a balance between their own needs and desires and those of the others they must live with. No society has quite done that yet...

Wait Goes Up, Must Go Down: [P₁] -- I'm glad you're finding ways to enjoy yourself in California. I've finally figured this Administration out: someone (Reagan, Stockman, Watt, etc.) will propose something absolutely HORRIBLE and wait to see who screams before compromising. If they plan to cut a program and no one says anything, it obviously wasn't important, so out it goes...

[P₂] -- The traditional East Coast vs. West Coast vs. Midwest vs. Deep South loathings are now evaporating. Television, that Great Homogenizer, is making all these folks alike. Cowboy hats in New Jersey - ho hum! I plan to bail out of WU within a year now; then the computer will have the place to itself (well, not quite...). Shoosh! If you go around telling EVERYONE that Boulder has clean air, it'll be GONE in ten years. Look at what happened to Denver...

Right-o: Schrödinger's KAT -- I forgot your middle name is Alan...

101 Ways to Say "I Don't Know": [P₁] -- Oh well, not a whole lot to say to you here, since I saw you just last week. Do you think Smullyan or Hofstadter ever ate at the "No Name" Restaurant?

810504-1

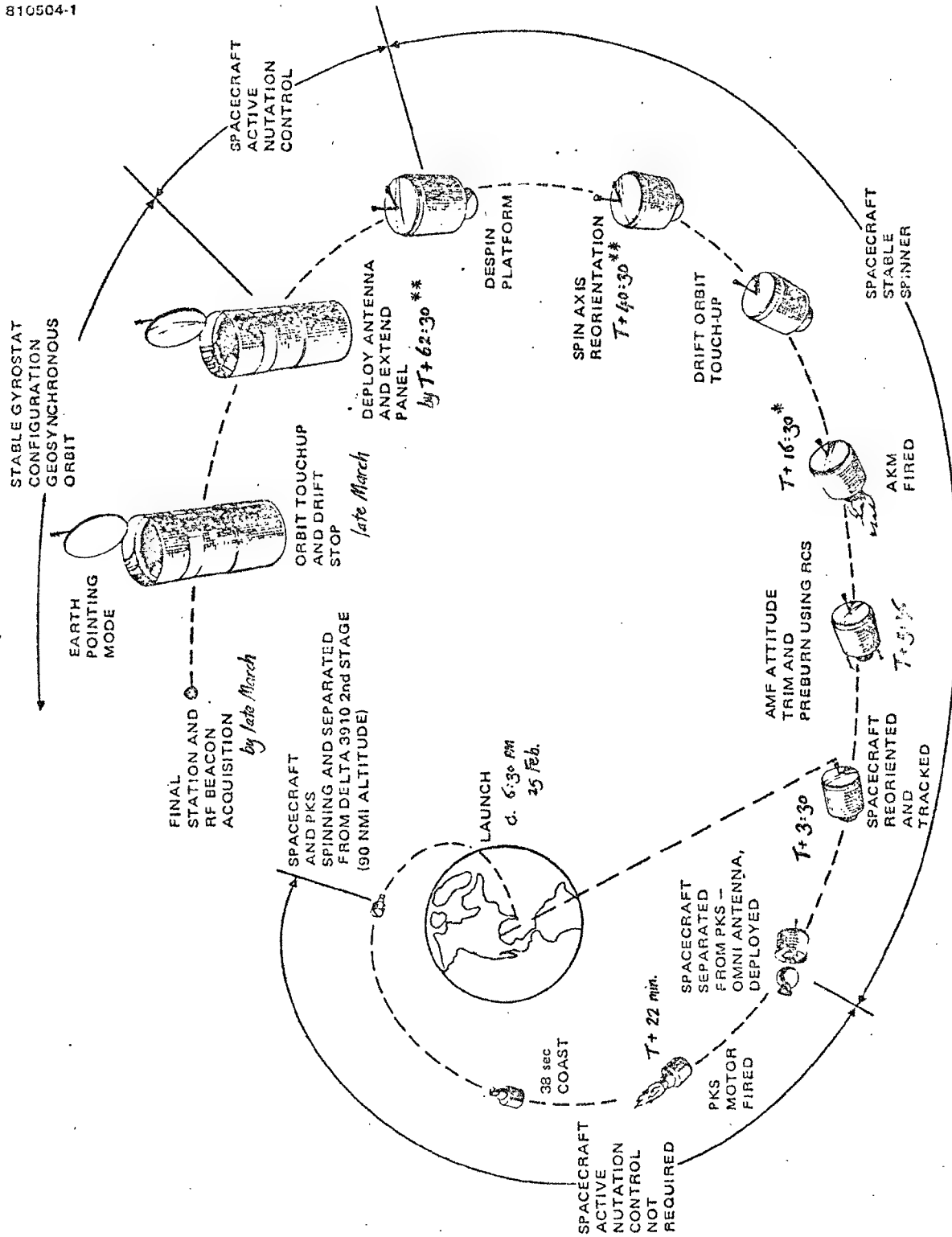


FIGURE 1-1. DELTA LAUNCH SEQUENCE

(very schematic)

* With rny luck

** Assuming above AKM firing

February 1982

By Dr. James R. Stuart
SME Deputy Project Manager
JPL/LASP
(excerpted by J)

Exuberant University of Colorado scientists and students celebrated the successful launching of their atmospheric research satellite on October 6, 1981. Since then, the Solar Mesosphere Explorer (SME) has been pouring data about the earth's fragile ozone layer into the mission control center at the University's Laboratory for Atmospheric and Space Physics (LASP) in Boulder, Colorado. SME is the first satellite designed specifically to study the natural changes in our ozone layer, that part of the atmosphere which protects us from the sun's deadly ultraviolet rays. SME is also the first NASA satellite to be entirely operated and controlled from a university through NASA's worldwide 2 GHz ground station tracking network.

SME is the result of years of proposing and planning by a team of scientists from LASP and the Department of Astro-Geophysics at the University of Colorado, headed by Dr. C. A. Barth, Director of LASP and the SME Principal Investigator. Scientists from the National Center of Atmospheric Research, the National Oceanic and Atmospheric Aeronomy Laboratory, and the Jet Propulsion Laboratory are also involved in the project. After three years of development, a DELTA 2310 launch vehicle placed SME into a 540 km altitude, circular, sunsynchronous polar orbit. Every 96 minutes SME, spinning at 5 rpm, circles the earth from pole to pole, providing the first global study of our ozone layer.

The primary objective of the SME satellite is to determine the nature and magnitude of changes in the mesospheric ozone densities that are the result of changes that occur in the solar ultraviolet flux. The entire scientific payload was designed, built and tested by the scientists and engineers at LASP.

Instrumentation

Four limb scanning instruments (Infrared Radiometer, Infrared Spectrometer, Ultraviolet Spectrometer and Visible Spectrometer) measure ozone, water vapor, nitrogen dioxide, temperature and pressure in the upper stratosphere and mesosphere. In addition, two instruments (Solar Spectrometer and Proton Alarm) measure solar ultraviolet radiation and monitor solar proton flux. This scientific payload is studying the relationship between the decrease in ozone and

the flux and energy of the solar protons, the recovery rate of ozone following the event, and understanding how water vapor affects the changes in the ozone layer that occur during solar proton events.

The SME spacecraft Bus, providing all the required engineering support for the scientific payload, was designed and built by Ball Aerospace Systems Division. The design emphasizes low cost, simplicity, and heritage. All the spacecraft Bus components have been built and flown on previous satellites.

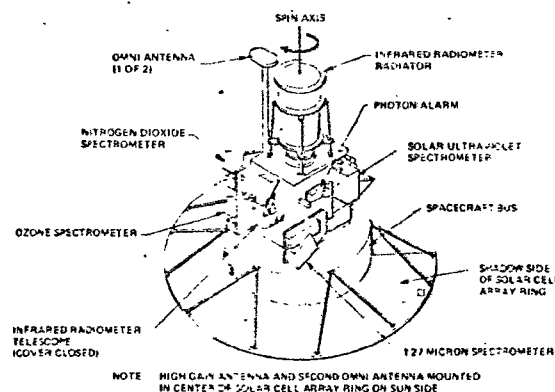
The 950 pound SME spins at 5 rpm, with the spin axis maintained normal to the orbit plane. As SME cartwheels around its orbit, the science instruments measure slices of the atmosphere in the orbit plane at the limb of the earth twice every 12 seconds. The entire globe is covered every 15 1/2 orbits (24 hours).

In order to be very easily operated, SME is the first spinning satellite to use a totally autonomous attitude control system. A pair of horizon sensors scan the earth every rotation and provide the error signals to control the satellite spin axis pointing and spin rate, using on-board logic and electro-magnets torquing against the earth's magnetic field.

Science data is gathered in bursts (17 kbps), once every satellite rotation, stored in the instruments and read out slowly into the SME command and data handling subsystem. Here the data is merged with engineering data and put into any one of four formats, each with 128 eight-bit words as a minor frame. This merged data stream can now be either transmitted in real time to a ground station at 512 bps or, more regularly, recorded on either of the two tape recorders (1.6×10^7 bits each) for later playback at 8.192 kbps. Commands sent to SME at 125 bps can be immediately executed or stored in the on-board command memory (512 words) for later execution any time within the next four days. Frequently used command sequences are easily performed by using stored command subroutines that can be initiated by just a single command.

Communications

SME communicates with the ground through NASA's worldwide 2 GHz Ground Spaceflight Tracking and Data Network (GSTDN) stations. SME is also designed to be able to communicate through NASA's new geostationary Tracking and Data Relay Satellite System (TDRSS) when it becomes operational.



Solar Mesosphere Explorer

Mission Control

From this center, all satellite engineering and science functions are closely monitored and controlled by a staff of six faculty and 14 students, many of whom are undergraduates. The SME Mission Control Center is a precedent setter, not only because of its efficient operation and its powerful state-of-the-art operations control software (developed at LASP), but because it is operated at the home of the science team. Here the scientists and engineers analyze the returned telemetry data and plan the next day's activities for the satellite. These plans are translated into a time-tagged command sequence which is readied for uplink during one of the 16 ten minute GSTDN station passes each day. Prior to each pass, student controllers, sitting at consoles which will display the received realtime satellite status and performance, brief the next GSTDN station about the upcoming pass activities over the NASCOM voice net. Once SME has come into view and the station has acquired two-way lock, the command load is sent from the console to the station, modulated (PCM/PSK/PM) on a 16 kHz subcarrier, and transmitted through a 2 kw klystron up to the SME omni receiving antennas. Immediate status changes are verified by the controllers on the downlink, and SME begins the next day's experiments.

The millions of bits of information returning daily to Boulder by SME are helping CU scientists and students understand, not only our changing ozone layer but how to bring hands-on space science closer to the classroom. Already a new understanding of our fragile ozone layer is coming into focus. Perhaps as important, SME is now a successful new model for future NASA missions, even to the distant planets of our solar system. □

LOCs Without the Bagels: [P₂] -- The normal atmospheric limitation on resolution due to turbulence is about 1" of arc (as we astronomer-types are PAINFULLY aware). At a distance of 150 nautical miles, this yields a linear resolution of around 4½ feet, good enough maybe to tell that you are looking at the Shuttle. If you use speckle interferometry or one of the fancy signal-processing techniques, such as you suggest, you can get down to the diffraction limit imposed by the wave nature of light, which is $\sim \lambda/D$, where λ is the wavelength ($\sim 5000 \text{ Å}$ or $5 \cdot 10^{-5} \text{ cm}$. for visible (green) light) and D is the diameter of the aperture. If the serial numbers on the tiles are, say, 3" high, you would need a resolution of about $\frac{1}{20}$ " of arc just to see them; this would call for an aperture diameter given by:

$$\frac{1}{20}'' / 200,000 \text{ sec/radian} \approx \frac{5 \cdot 10^{-5} \text{ cm}}{D}$$

$$\text{or } D \approx 200 \text{ cm.} = 2 \text{ m.},$$

not Palomar-sized, but respectable. To read the numbers would require angular resolution at least an order of magnitude better. With a Baker-Nunn camera ($D \sim 1 \text{ m.}$), I imagine the military folks could see which tiles were missing, though...

Young and Abroad in the Solar System: [P₁] -- Interesting: yet another clever, low-budget solution to a problem from NASA. Now unless the James Gang shows up in pressure suits to plunder low-Earth-orbit, we should be just fine...

Good luck working your way back to grad school. I've got my eye on the same goal, so you have my best wishes.

Sing Ho! for the Life of a Bear - Chapter Two: [P₂] -- I made that remark because so many people do call for a Sign to confirm their faith. My understanding of this Universe leads me to believe that the Presence is undeniably there and that we can always "hear" from It. Maybe we just need to find better ways to listen. (I hope this doesn't sound arrogant...) \geq gasp: Mysticism in APA-TECH!

Smith's ^{RABBIT} Corona: [P₁] -- Just what I needed: more suggestions for good things to read. \geq sigh: I've put them on the list...

General Tektonics II: [P₁] -- Your stomach will get another chance to churn in a couple weeks. Heavens, the Shuttle is actually ahead of schedule this time!

I guess a lot of people notice that about Niven: his short stories after about 1975 don't really take hold and most of his longer works are just OK. Maybe "hard" SF is getting tougher to write?

[P₂] -- I would agree that our means of educating people in a lot of fields need to be expanded. Graduate school has a way of making one fit only for Academia and puts one out of touch with what the rest of the world does. It wouldn't hurt for there to be stronger exchanges of knowledge (not influence) between, say, universities and industries.

The Eighth Orbital: [P₁] -- As you no doubt discovered by now, the Hyatt in Chicago won't make room reservations for Chicon over the phone. It took me a ten-minute call to find this out: first the clerk couldn't find the file card on the convention and then eventually learned why there was no card. So now I have to send in the handy reservation form with \$200- (I'm reserving two doubles from Thursday to Monday - I'm also looking for roommates!).

[P₂] -- I found your description of vacuum-as-insulation a bit obscure until Bill-Aptch confirmed my suspicion that you did indeed mean cooling by radiation alone. Well, I did an estimation and it sure doesn't look good. Assuming that the laser radiates waste heat like a blackbody (ideal absorber and radiator), the rate of heat loss is:

$$P \text{ (watts)} = A \cdot \sigma T^4, \text{ where } A \text{ is surface area, } T \text{ is absolute temperature, and } \sigma = 5.7 \cdot 10^{-8} \text{ W/m}^2/\text{K}^4.$$

The Eighth Orbital (cont.): If the laser is a cylinder, then we have $P = 2\pi rh \cdot \sigma T^4$. Suppose the specifications of the laser are that it have a length $h = 5 \text{ m}$, a radius of $r = 10 \text{ cm}$, and that it handle pulses of 100 MW in coherent radiation and waste heat (I have no idea if those are realistic, but you now have the relevant equation...). Assume further that most of the energy is wasted. If the laser had to get rid of the heat during each pulse, the radiation temperature would be about

$$T \sim \left(\frac{100 \text{ MW}}{2\pi \cdot 0.1 \text{ m} \cdot 5 \text{ m} \cdot 5.7 \cdot 10^{-8} \text{ W/m}^2/\text{K}^4} \right)^{1/4} \sim 5000 \text{ K};$$

for comparison, the solar surface temperature is about 5800 K. Of course, the equilibrium temperature is probably closer to that set by the average power. If the laser is only "on" 1% of the time, then the average power is about 1 MW and we obtain

$$T \sim \left(\frac{1 \text{ MW}}{3 \text{ m}^2 \cdot \sigma} \right)^{1/4} \sim 1600 \text{ K} \approx 1300^\circ \text{C} \approx 2400^\circ \text{K};$$

kinda tough to sustain population inversions under those conditions... Maybe someone else has a better idea of what a military laser weapon would be like and can check up on this.

I had to dig around in my files to find out what I meant by "method (3)" for the spacewar orbital computations. (Please write more complete replies: I'm lucky if I remember things I said an hour ago, much less four months...). A method for computing positions on a fixed orbit at later times and determining a new orbit only as a result of a thruster impulse probably is the best technique of the three. After the launch, when they let us have the computers back, I'll try to work up an algorithm and see how fast it is.

No planets from L.A.?! Don't they ever have "star parties" at the Griffith Observatory?

Forgive me - I keep forgetting that everybody doesn't know everybody else. The folks-in-the-photo are (from left to right) Leo Doroschenko, Martha Soakup, Yours Truly, and Jerry Corrigan. So if you ever see us again and have this handy key, you'll know who we are...

I know one is not supposed to comment on an APA in the same issue, but I can't take this hobby seriously enough to be bothered by "rules." (Same thing goes for the rest of the "fannish" hoo-hah...)

I guess I've said all I'm going to say on extraterrestrial civilizations for another couple years - darn it, I want some EVIDENCE!!



=uh= Hi there. The random number generator said to put some news here, so I'll have the rest of the mailing comments further along. First, I want to apologize to the people who sent me stuff to be Xeroxed. Even after the massive overhaul it just had, it still wouldn't come up with really dark copies. So no one will be charged a cent for the copies I did for them. I may also quit using it for Q&S until they buy a newer machine: this means no more 2^{1/2} a page and a nice trip down to Somerville until then, but I've had enough of tattle-tale gray...

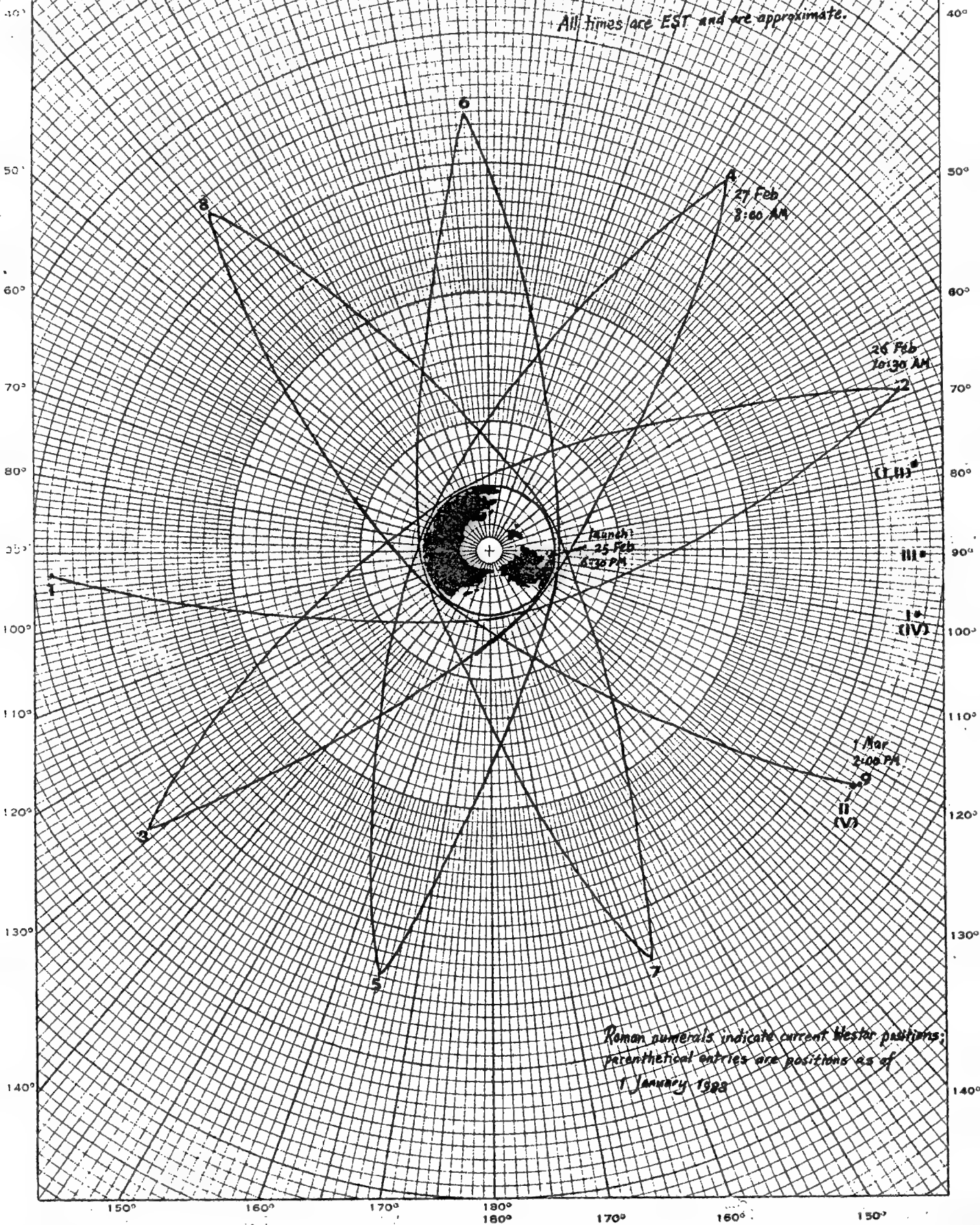
I'm about to do the fifth night of my race-through-the-universe course (good grief, it's one-third over!); I haven't scared everyone off yet, so I guess I'm doing OK so far. I finished writing the script for my first planetarium show just this week; it goes public March 12th and we still have to produce it yet (my fault), but I think we'll make it...

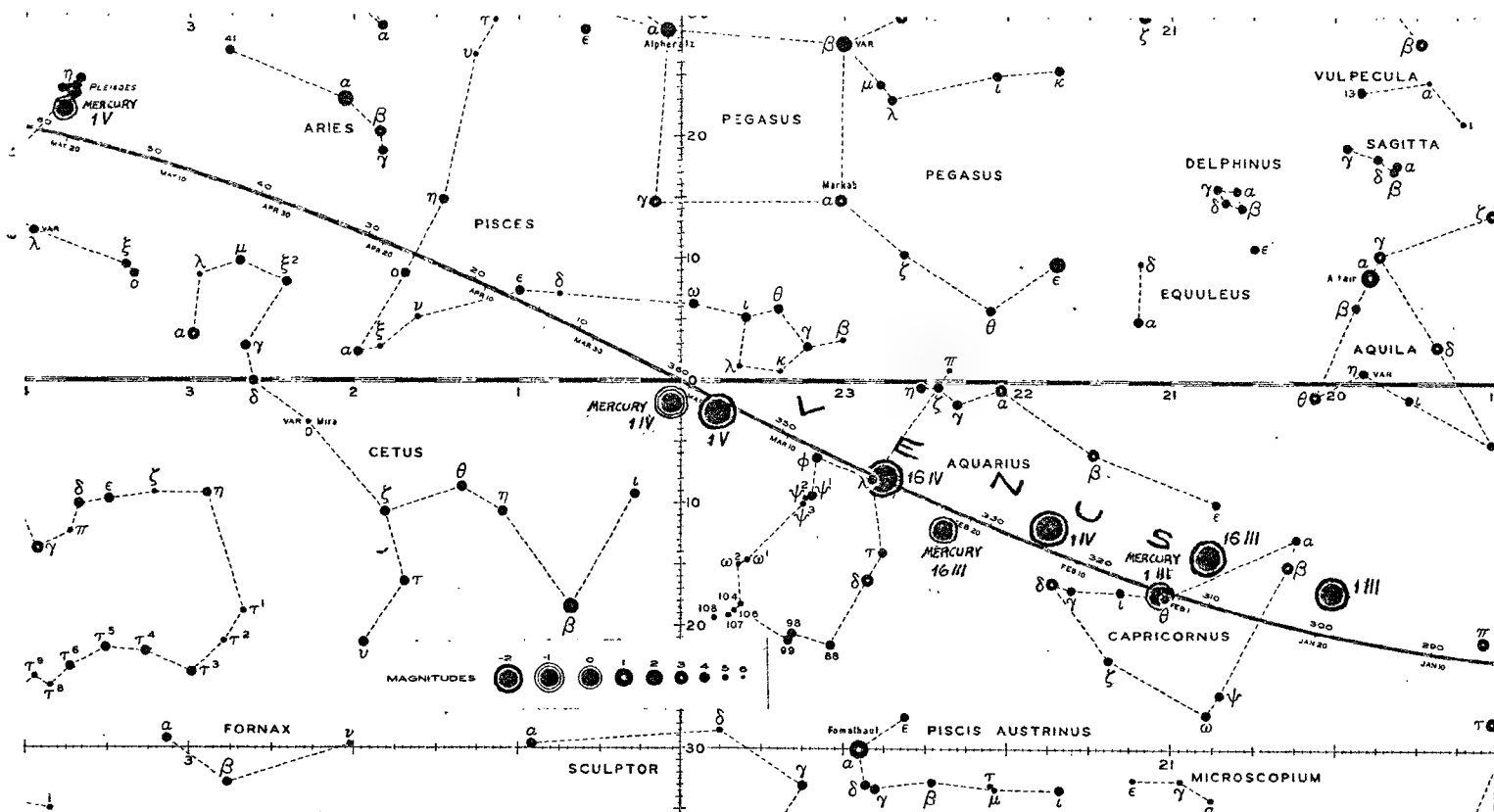
Confusion was quite an experience. I'll let others and the "jam session" tell that story in their own witty ways. Boskone itself was =eh=, but I enjoyed the company of you folks I spent the weekend with. Gonna move to Boston, Rolf?? I plan to hit Lunacon (their 25th) next month; Marcon (I'd like roommates); and Rolf'n'MaryCon or Whatcon III, at which I am "best man" (or we could have a "best man" costume contest - winner gets dragged behind the getaway car and makes noises like tin cans...). Awww, that's silly... That's it until Chicon - I've decided to try for adjoining doubles and will take on about ten boarders or so... After that, Conclave maybe?

Oh yeah, the solution to my puzzle a couple issues back. An equatorial geosynchronous satellite is most likely to pass into the Moon's shadow during a solar eclipse. That happens three times this year: in June, July, and December. It's a big year for eclipses. Be seeing you.

Apparent transfer trajectory
as viewed from Earth

Arabic numerals indicate successive apogee passages.
All times are EST and are approximate.





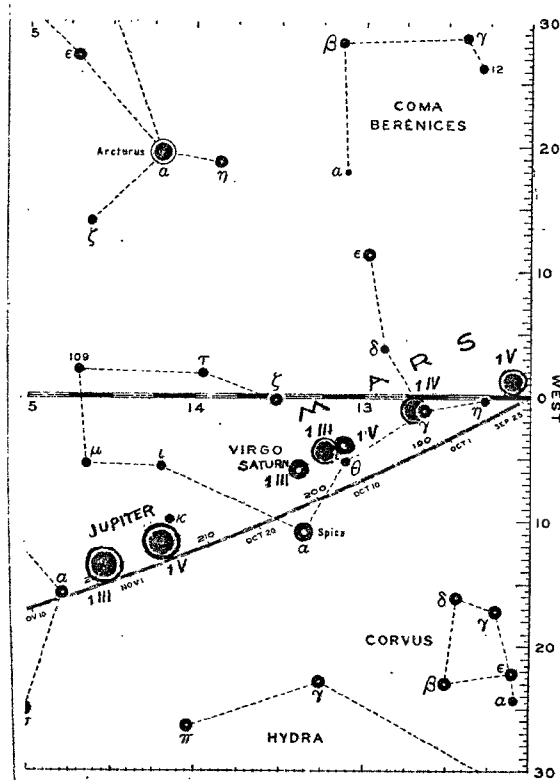
The Planets - 1 March to 1 May

March 10 is the day of the infamous "Grand Alignment": all nine planets will lie within a 95° wedge of the Solar System. If you're up before sunrise, you'll be able to see all five naked-eye planets at once, although Mercury will be very low in the sky.

Venus is now a "morning star" and is low in the east at sunrise. It will be the brightest light in the sky (after the Moon). It attains greatest western elongation on April 1st.

Earth is catching up with and passing Mars, Jupiter, and Saturn, so all three are in retrograde loops in Virgo during this interval and will all be near the meridian at midnight (or rising around sunset).

The Sun will reach the Vernal Equinox at 3:56 AM EST on March 21st. This winter will be over then - at least astronomically...



Westar IV is going up, Murphy willing, at about 6:50 PM EST this Thursday, February 23rd. All the headaches are NOT resolved, but things will probably work well enough for us to get underway. I will be on 12-hour shifts through the weekend as OD support, which means next to nothing since Hughes is responsible for the satellite until it reaches 99°W. next month.

If everything goes smoothly, we leave the transfer orbit about 11 AM Friday for a nearly synchronous orbit, drift to 79°W., stop for a while to run some communications tests, and then move on to 99°W. If we aren't ready at second apogee, we have to wait about 21½ hours for the fourth apogee to try then; if not THEN, seventh apogee... or ninth. We have to go by then

or the satellite will get too cold: the solid fuel motor could explode if we tried to fire it after that... The cute part of all this is that our eclipse season also begins Thursday. Not only do we have to worry about switching from solar to battery power and back on the three old satellites, but also on the drifting one, for which the eclipse will come at a different time each night. We also get to learn all the quirks of a new model of satellite at the same time...

Westar IV is supposed to be on-station in late March and in commercial service by April 1st. We then start moving Westar I, which it replaces, to 79°W; this will take about forty days. This will also be during eclipse season, so it's more fun with shifting eclipse times. I am largely responsible for planning this maneuver: we are consulting Hughes on certain details of propulsion, but

it's going to be my neck if it's not right. Wish me luck...

Well, WV is crazy and Hughes just abets them anyway, so the launch date for Westar V has been moved from September 30th to June 10th! Number 5 is done and is undergoing integrated systems tests; mebbe I'll get to LA in April, but I'm not counting on it... Once W-V is in place, I get to move #2, once Management stops mumbling in their martinis and decides how they want me to do it...

Westar VI goes up from Kourou in December of next year. Westar 7 is in the works and

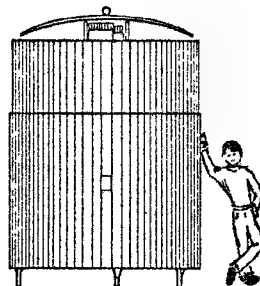
is being sent by '85! HEE-HAH!

Westar 8?

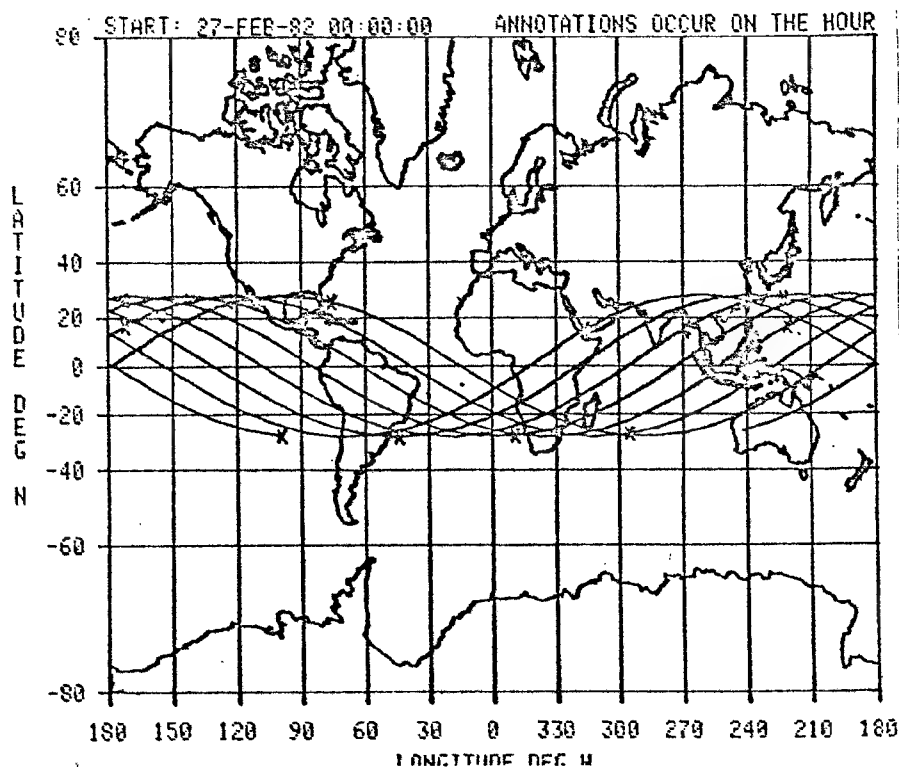
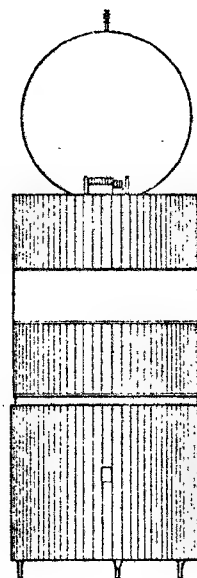
← This is just an excuse to show off some of the nifty graphic software. Here's the ground track for some random low orbit, displayed on our Tektronix plotter, printed on a Tektronix printer, and reduced with a borrowed auxiliary Xerox machine.

WESTAR IV

DIAMETER
216 cm (86 in.)
HEIGHT STOWED
274 cm (108 in.)
WEIGHT
585 kg (1290 lb)
beginning of life



DIAMETER
216 cm (86 in.)
HEIGHT DEPLOYED
684 cm (269 in.)



South America Site Set for Launch Of Westar VI

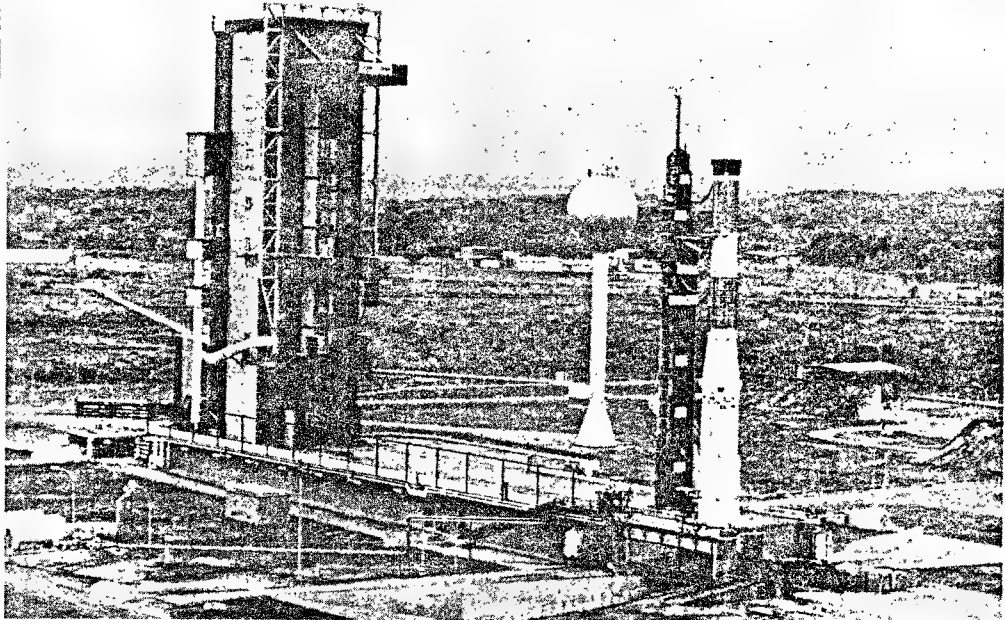
Westar VI will be the first Western Union satellite to be sent into space from a launch site outside the United States. The Company's sixth domestic communications satellite will be launched by Arianespace, a private European company, from its space center in French Guiana on the Atlantic coast of South America.

The Telegraph Company has awarded a contract of approximately \$22 million to Arianespace, a French-based company formed last year by a group of European space companies and agencies to launch the Ariane rockets developed by the European Space Agency. Western Union is expected to be the first American communications company to have a satellite launched by Ariane.

Westar VI is under construction by Hughes Aircraft Company, which has been the prime contractor for all of Western Union's satellites. It is scheduled for launch in December 1983 by an Ariane 3 launch vehicle from a site in Kourou, French Guiana.

Ariane 3 has a rocket thrust sufficient to launch two satellite payloads simultaneously. This was a major consideration in the decision to use Ariane since a significant savings will result from sharing the launch with another Arianespace customer. Westar VI is expected to share the launch vehicle with the French government's Telecom IB satellite.

The Company expects to obtain financing for the Ariane launch costs from European sources which, because of French government guarantees, can provide funds on terms more favorable than those available in the United States.



NEW LAUNCH SITE — Westar VI will be launched in 1983 from the Centre Spatial Guyanais, above, operated by the European Space Agency in Kourou, French Guiana. Situated on the Atlantic Coast of South

America, French Guiana is a French Overseas Department. Devil's Island, the former penal colony maintained by France for nearly 100 years, is located off the coast of the country.

The necessary waiver to proceed with satellite construction and launch preparations for Westar VI was granted to Western Union by the Federal Communications Commission in August. A 24-

transponder satellite designed to have an operational life of approximately 10 years, Westar VI will carry data, video, facsimile and voice communications traffic, as do the existing Westar satellites.

Western Union has three communications satellites in orbit, each carrying 12 transponders. Westars IV and V, both 24-transponder satellites are scheduled for launch in 1982.

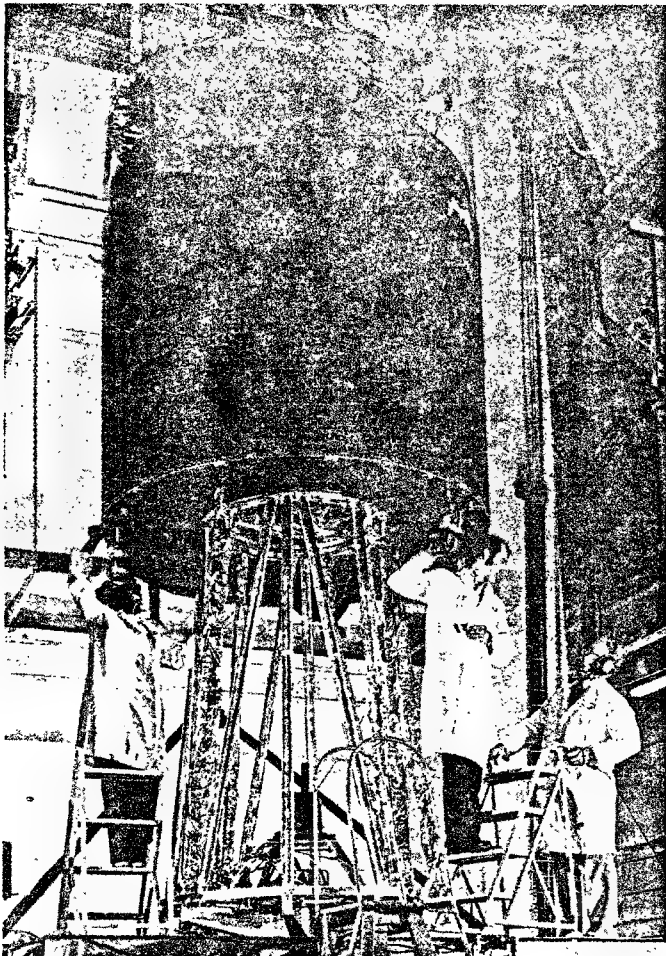


Tailfins on 'Em Again: [P.] -- Hey, bud, c'mere... ya wanna list a' other neat stuff ta look at wit' a ten-power scope? Lemme know an' I'll make one up for ya... Actually, you could start with the planets, since you now know where they are; 10x won't do a lot for you, but you'll be able to tell that they are planets.

I really enjoyed your account of your sojourn out West and reading about all those people I've never heard of. Why in the world should that be? For some reason, though, some people in this issue remarked upon the length of your contribution. I don't understand this at all. When I write 18 or 24 pages, nobody says a word; I hope that doesn't mean what I think it means...

I'd like to get JBIS, but I'm already horribly behind in the stuff I now subscribe to. I am sending for the starflight bibliography, which is being published separately, and the Project Daedalus book, so I can finish poking holes in it and redesign the mission. Who's wants to go to some dumb little red dwarf? Alpha Centauri or bust!

Your comment about skimping on meals reminded me of Woody Allen's putative biography of the Earl of Sandwich and his experimentations: "He used to skimp on meals to save money for food."



LOOKING UP—Technicians at Hughes Aircraft Corporation in El Segundo, California, check out Westar IV before the new satellite is transported to Cape Canaveral for its scheduled February 25 launch.



I'm just about out of stolen time for this issue -- back to myriad other matters. It appears we won the bout with the weak Xerox copies, only to have the paper start jamming again. Maybe we'll get a new machine yet...

I hope Capricorn is lots of fun for those of you attending. I'll think about you and grumble this weekend, while I'm waiting for something to happen around here.

Let's close this weirdness with a musical number...

Westar IV Ready For Launch

The countdown is on schedule for the launch February 25 of Western Union's fourth domestic communications satellite—Westar IV — from Cape Canaveral, Florida.

Joining the three Western Union satellites now in orbit, Westar IV will represent a major advancement over the earlier "birds." The new satellite will carry 24 transponders — double the number on each of the other Westars. A single transponder can carry 1,400 one-way voice circuits or one full-color TV signal with audio, or data at speeds of up to 60 million bits per second. The coverage — or "footprint" — of the new satellite will include the 48 contiguous states as well as Alaska, Hawaii and Puerto Rico.

On hand for the launch, which will take place at about sunset, will be Company officials as well as guests, including security analysts, customers and representatives of the banking community.

The launch will be conducted by the National Aeronautics and Space Administration. The new satellite will be placed in geostationary orbit

22,300 miles in space, directly over the Equator, revolving with the Earth at precisely the same speed, rather than orbiting around it.

Westar IV was built by the Hughes Aircraft Company in El Segundo, California. It was carried to the launch site in December in a specially designed van equipped with temperature and humidity controls. Arriving at the Cape ahead of Westar IV was the Delta 3910 launch vehicle built by McDonnell-Douglas at its Huntington Beach, California, plant.

The new satellite will join the Company's established Westar system, which has had a major impact on the television and radio broadcasting industry by providing an economic alternative to the high cost of traditional landline transmission or the physical distribution of video-taped programs. Facsimile copies of newspapers and magazines also are transmitted via Westar to remote printing plants for printing and distribution. In addition, the Westar system provides transmission for a wide range of Western Union services in conjunction with the Company's microwave network.

**And Now Here's
Carl Sagan
Crooning 'Fly Me
To The Moon'...**

*... let me see what
spring is like on
Joopterr and Marrz...*



THE EIGHTH ORBITAL -- for Apa-Tech #17

Jamie Hanrahan, 18225 Kingsdale Ave. #208, Redondo Beach, CA 90278

There are several reasons why I'm typing this zine at home on my IBM ET50, rather than using the various facilities available at work:

1. I haven't had much time at work lately to do things like apazines.
2. Today is the 7th of February, and if I do this today (Sunday) I can get it copied and into the mail on Monday, but if I try to do it tomorrow at work, even assuming it gets done, it won't get into the mail until Tuesday.
3. The ET50 has just come out of the shop, and I want to work it some so that any bugs they left in it will show up in time to let me take it back and have them fix it right.
4. I realize that probably no one cares why I'm using the typewriter instead of the VAX, but this explanation has already used up nearly a third of a page, and our OE did ask for longer contributions.
5. Besides, I like doing my titles in a different typeface, and I do tend to be more spontaneous when I'm typing near-final copy.

MAILING COMMENTS ON APA-TECH 16

(I do hope I've got the numbers right. Keith Thorne had to borrow my copy of Apa-Tech number whatever-the-last-issue was. The most recent one I can find around here is number 15, but I have some hand-scrawled notes here that say "stuff for A-T 16" at the top. Hmmm.)

Paul: Congratulations on the art sales!!! And also on your feeling at home among us (though I use the term "us" loosely; we've never met, but we do have mutual friends). Re Gretchen's comment to you about media fen, and your reply...

In the first place, I imagine she was a bit surprised. The question you asked of her Tarot deck is just not the sort of thing she was probably expecting, and I imagine her response would have been similar in nature (though different in detail) had you asked "Is Farmer really through writing 'Riverworld' novels", or "What will the next 'Dune' book be like", or etc. In my limited experience, the questions typically asked of Tarot decks are of considerable personal import. Gretchen was probably expecting a personal-type question from you, and her response might well be translated as "Why is such a thing so personally important to you?" The actual phrasing of her response could just be a result of the anti-media-fan conditioning that all mainstream fen are exposed to these days.

Gretchen -- or someone else -- will probably accuse me of putting words in her mouth, or, worse, thoughts in her head, and said accuser will have me dead to rights. I never could resist sticking my nose into other people's business... but I have a reason this time; I want to say something about the whole anti-media-fan phenomenon, and this seems a reasonable way to start, for Gretchen's response to you was really quite understandable in context.

I have an interesting perspective on this because I got into fandom via media fandom myself -- specifically, via Equicon 73, the first West Coast Star Trek con. (Of course, that's stretching a point a bit. The people who ran the Equicons -- first Bill Tuning, and then the Trimblees -- could hardly be accused of being media fans, then or now. Nonetheless, I went to Equicon as a "Star Trek fan", rather than as a "science fiction reader".) I know many people who, like me, discovered mainstream fandom via media-oriented cons, but have had no trouble merging with and being accepted by mainstream fandom. I know many others, on the other hand, who will probably always be regarded as "media fans", and will therefore be sneered at, despite displays of intelligence and creativity which would put many mainstream fans to shame. And I think I know why...

They're fanatics. Or, at least, they act like fanatics.

Now, there's some of that in all of us -- hell, the very word "fan" is derived from "fanatic" (at least according to the dictionary I have at hand at the moment), and if we weren't at least a little bit fanatic about fandom, fandom as we know it couldn't exist. Nonetheless, nobody -- well, very few people, anyway -- likes to think of themselves, or be regarded by others, as a fanatic. It's an image that science fiction fandom has been trying to shed for years, ever since the media became aware of us and started writing "look-at-the-freaks" pieces about our conventions.

Now, along come the media fans. No mistake here; these people are fanatics. Not just about sf in the media in general, but (usually) about one particular show. And by the way they dress, talk, or decorate their cars*, they make it obvious that they're fanatics, and that they're proud of it!

Which makes them come across as very gauche. So the mainstream fan is quick to deny any relationship between them and himself. "We're really much more sensible than those media types are."

What at least some fans are really saying is: "There, but for the grace of Ghu, go I."

What Gretchen was probably saying to you was: "Paul, you're intelligent, creative, sensitive, [and whatever -- like I said, Keith has my copy of AT16] -- why is Doctor Who *that* important to you?"

Can you see why this is a reasonable question to ask?

Enjoy your Doctor Who fanac, secure in the knowledge that no less a personage than Harlan Ellison has said that it's the best sf to ever appear on TV (presumably not excluding his own scripts for Star Trek and Outer Limits). But don't be too surprised if you bump into the "don't be such a fanatic" reaction; it's inevitable.

Thank you for your congratulations (or did I thank you for them lastish? I lent my [Yes, we know -- you lent your copy of AT16 to Keith Thorne!!!! -- AT members]). Come to Chicon and meet Gail (and me too, come to think of it). And thanks for the groan re my ct Jerry -- I'm glad someone noticed it!

* Who, me?

Higgins: Re yr ct me -- huh??? Re ct Mike -- many Westercons past were held at the Francisco Torres, a privately-run dorm/conference center adjacent to UC Santa Barbara. This, incidently, was where the tradition of skinny-dipping at Westercons got started, thanks to the fact that it was not a public hotel. Nice place, but there's one thing lots of people didn't like, and the same will hold true of dorms across the country: They tend to run to single beds. Small single beds, at that.

(Once upon a time, the infamous Craig Miller was proposing that the Torres be used for some con or other, and this very objection was raised. He tried to state that "there isn't anything two people can do in a double bed that they can't do in a single, providing they're doing it right". Instead of countering with a description of what has been called the X position (there were innocent ears present), I asked him, "what about sleeping comfortably?" He tried to recover by claiming that nobody ever sleeps at cons anyway, but I considered my point scored...)

Dick Smith: Let us know how the Rabbit runs. I'll probably replace the old Dart with a used Celica sometime this year, but I'm open to other suggestions. // I too liked "True Names". What was your side of the debate with BillH? Come to that, Higgins, what was your side?

Valli: Will you PLEASE stop apologizing for the content of your zines??? // Re ct Paul -- you read mysteries? I'm collecting "Saint" books, myself...

Keith: RAEBNC.

Jeff Sekiya: Most of Niven-and-Pournelle's books have had "great little slogans". In Mote it was "That turns out not to be the case", which is, of course, a polite way of saying, "bullshit". That turned up in Lucy's Hammer as well. Niven has been using "Think of it as evolution in action" for years, though.

Greg Ruffa: Re ct Keith on "pop psychology" and etc., I concur (big deal, right?). You're lucky I didn't have time to do this on the VAX; for the "random issue" I was going to print an entire page of words selected randomly from our on-line dictionary... probably would've been a good deal more profound than anything else I've pubbed, at that.

Captain Al: Welcome -- and it's about blinking time!!! (This auto-underline key does get to be habit-forming...) Re ct me, I'm always interested in suggestions for things to read, listen to, and otherwise sense. Write!

I now have a 12V supply for one of my laser tubes that will nicely fit inside a moderately-large pistol grip; this would seem to be a good design goal.

Re second ct me, Pyro Tectonics (thanks to Jeff Sekiya for the inspiration on the name) is in the works, though the way things look now I'll be damned if I know when I'll have time to finish it. Vic Koman, George Popa, and Chuck Von Rospach have promised to contribute. I'll be writing up my ultra-cheap design for trivia bowl lockout-button circuits (what the hell do you call those things, anyway???) and filling space with yet another follow up on the lead-acid cells. It was originally planned to come out in April, but we'll see...

The Eighth Orbital -- page 4

Re third ct me, I have bad news. I've gone all through my slide collection, and the shot you want is not there. Oh well -- I'll tell her to bring the costume to Chicon...

Re ct Bill-El: There was a particularly silly letter in the L. A. Times recently from someone who was incensed that many common household objects (such as hair dryers) were made with pistol-like grips! "A child who was used to handling such things would probably pick up and fire a gun, just from habit", they wrote. Pure paranoia -- haven't these people ever heard of functional design? Don't carry your Metrologic demo laser; it might get broken. How about a soldering gun, or an automotive timing light? (I have one of the latter which I'm fitting with self-contained battery and trigger-pulse generator. Should be fun.)

Re yr last ct Dick, see the following entry, soon to be added to the GTIH (assuming he sends in his stamps):

Doug Humphrey
6200 Westchester Park Drive, Apt. 1705/Tower 2
College Park, Maryland 20740

I work for GTE/Subscriber Network Products, and am the Electronic Mail and other advanced services 'guru' on the project... I have access to a lot of 'interesting' Intel doc. on the 432, as we are a very big beta test site...

Computers;

I own a DECsystem 1050 which I am working to get running. Need help on all aspects of the project (hardware, software, manuals, etc.) and donations of same. Free beer and accounts for all who help.

Our electronic mail problems may be solved...

Your zine was confusing at first! The "a" on your apa contrib's page 1 looked like an "8", and until we looked closely we couldn't figure out whether you'd sent us two pieces of one zine, or two copies of one zine, one with missing pages... for future reference, if you send out Pyros privately, (a) Gail and I only need one copy between us, and (b) if Jeff is too busy to run off a set of labels for you, ask me -- I've got the whole mob list (and then some) in the GTIH files. (The extra Pyro 32 wasn't wasted, though. When Jon Singer was here he said he'd never gotten it, so we gave him the extra.)

Michael Sestak: RAEBNC.

Rolf: (Was this a postmailing for AT16 or a premailing for AT17?) Re Worldcons -- I keep hearing complaints that "today's newer fans don't make enough of their own fun; they go to cons and expect to be entertained". I also see Worldcons, and some regionals, and even a few locals, going to triple- and quadruple-track programming. Which, of course, leads to complaints that the panels are either too lightweight, or that there's too much scheduled and you can't see everything you'd like to... but I digress. Today's new fans have never seen cons where it was apparent that they were expected to make their own fun!!!

Re your FRPG -- How about Mycroft Holmes (Heinlein's) vs. Mycroft Holmes (Doyle's)? Simon Templar in Amber? As with any FRPG, this one would seem to require "reasonableness" on the part of all players and the gamemaster -- only much more so.

Re ct Jeff Sekiya -- there are two such systems in existence to my knowledge. One is called the "software tools virtual operating system", and consists of a Ratfor-to-fortran translator, the library subroutines required by the programs in Kernighan and Plauger's Software Tools, and a shell command interpreter written in DCL. All the tools from the book are included with the package. It works, but slowly, because the VAX Fortran compiler's optimization techniques don't work well on Fortran code produced by the Ratfor preprocessor. The other is called "eunice", and is even better. It consists of a C compiler that generates VAX-linker-compatible object code, a set of library subroutines that mimic the Unix system calls, and (again) a shell command interpreter written in DCL. The result is that you can take a C source program for just about anything that runs under Unix and compile, link, and run it under VMS. And, yes, it tends to run faster than even Berkeley's VMUnix, mostly because that system does not allow multiple processes to share code, and secondly because VMUnix's paging system isn't as smart as VMS's. (P.S.-- Gail, who is now an apprentice wizard on a VMUnix system at TRW, tells me that this will be fixed in the next release.)

--- end of mailing comments ---

MORE CON-DISSENTING REMARKS

Although I didn't go to Worldcon this year, the many comments I've heard about it -- here and elsewhere -- have prompted the following venting of spleen. (Higgins, you said some time ago you wanted to hear more of my con criticism: Read on...) Like I said to Rolf, the very nature of today's cons is contributing to the preponderance of fans-who-go-expecting-to-be-entertained. Of course, if a Worldcon committee dared to run a con with only a single programming track these days, there would be complaints that "there wasn't enough to do...". But would those complaints be very loud?

If the vast majority of con attendees are, as some writers claim, passive types who are just going to cons to be entertained, they will not complain about a Worldcon with single-track programming, nor would they take the trouble to vote against a bidding committee that proposed such a thing. If two or three such cons were run in a row, the Worldcon population explosion would be halted in its tracks, and we could go back [listen to him, talking as if he was an old-time fan! His first Worldcon was Iggy in '78! -- members] to one- or two-thousand member cons in medium-sized hotels.

Of course, you have to replace all those program items with something. "Add a group of friends to an unknown city, and the results are usually from good to fantastic", says Rolf. Agreed -- but as I understood it, the magic of the cons everyone fondly remembers (even if they never actually went to any) was the ease of making new fannish friends, or at least meeting those whom you'd only known through fanzines and the lettercols. Can that ever be recovered?

Maybe not. It's been a long time since you could compile a roster of the WNF's just by scanning the lettercols of (name your favorite prozine); fanzines no longer go to a majority of fandom; etc., etc., excuses, excuses...

But some things can, and ought to, be done. For instance, I'm rather tired of panel discussions in which four authors deliver one set speech apiece, then allow ten minutes for questions from the audience, and then apologize because We Have To Clear The Room For The Next Group. How about some program items where fans are encouraged to talk with each other about some topic or other -- with one author who's familiar with the topic to conduct, not lead, the discussion?

How about some filksong writing sessions? You know, you've got an idea for a filk, but you just can't make it past the middle of the second verse -- so you bring it to a con, toss it out to such a group, and see what happens. Maybe nothing, but who knows?

And so on... there must be things a con committee can do to actively encourage people to meet other fans, and to convey the impression that that's the con's major reason for being. Then maybe the two or three (or whatever) thousand "passi-fen" that various writers are complaining about would get the idea that fandom isn't for them, and would go back to C&W dancing, or distributing Amway products, or whatever...

Then again, maybe all those "extra" people who have been attracted to Worldcons recently would love to be a part of the nationwide community of friends that fandom is supposed to be, or at least supposed to have been. Maybe if we planned some cons so they had half a chance to join in the fun, they would...

Of course, five or six years later, we'd still be getting complaints: "Worldcons are just too big. It seemed that there was a party behind every third door in every hallway, and party-hopping was next to impossible, because every time I went into one, I met five or six people I knew from last year..." But that would be a much nicer sort of complaint.

ASSORTED NONSENSE

Greg said that this was to be the issue for "random" contributions. Okay, here are a bunch of random comments. Of course, I had a section like this in my last contrib, and will probably have one in my next contrib, but at least I'm in sync this time.

I FOUND IT: A mint-condition (w/dust jacket) Gnome Press "First Printing" Gray Lensman, for \$20, in a used bookstore in San Diego.

I READ IT: We found the most marvelous used bookstore in Monterey, one that had apparently not been discovered by very many sf fans. They even had a copy of The Warlock In Spite Of Himself (we had one already, but that's a fairly good test for whether a place has been discovered or not). Among the fifteen or so books we bought was Stand On Zanzibar, so now I finally know who G. T. Buckfast and Shalmaneser are/were.

I wish you people had just told me; it wasn't worth the read. I haven't read very many books that were more depressing, nor ones that were written in such an awkward style. Brunner didn't invent a wonderful new way to write a non-novel; he just couldn't figure out how to put this particular novel together, and instead found a way to publish it anyway. And as if to drive home the fact that it's a depressing book, he ends it with an obituary...

(What were we doing in Monterey? Spent the week between Christmas and New Year's there, on our honeymoon. We didn't have time to take our honeymoon immediately after getting married, and it was more fun this way anyway, we both think. What were we doing in a bookstore on our honeymoon? Buying books, of course. And Renee had the nerve to call me a fakefan at Noreascon...)

Enough with the corny titles already. [He means he can't think of any more --ATM]

CHICON: They finally sent Gail her copies of P.R.'s 1 and 2. But so far I have still only received one issue of Cons and Shell Games, which is turning out to be a very aptly-named publication... by contrast, the ConStellation group sent us our membership confirmation cards three weeks after we sent them a check. This is all the more amazing when you consider that we mailed the check on December 21st.

WORK is alternately dull and interesting. Literally. They've got me teaching eight consecutive weeks this quarter. Every other week is my "standard" class, "Programming VMS in VAX-11 Fortran/Macro", which is becoming quite boring. (It's been some time since I've heard a question I haven't heard before.) The other weeks, though, I'm teaching Fortran IV, VAX-11 Macro, and "System-Dependent Features of VAX-11 Basic". I'm also working up a new class of my own; quite a few people in my Fortran/Macro and Fortran IV classes have expressed a desire for a Fortran 77 class, so I'm going to see if I can't put one together. If I can, it'll be quite a feather in my cap ("that's the sort of thing that's very easy to reward," my boss said).

All in all I think I like it -- work, that is. I really had doubts about getting into this, it being a complete 90° turn from my previous career path. But it's becoming more and more obvious that I can get back into programming any time I want to; DEC will pay for my schooling, so I can finish my Bachelor's and maybe even pick up a Master's; and in the meantime I'm adding a new skill to my resume. I seem to have a knack for finding ways to explain things to people who Can't Quite Get It, and seeing the lights go on is very rewarding. I could probably learn to teach most anything in the electronics or computer fields.

FOLLOW UP on the LAPD copter incident: Gail's father reports that no way could a 40 mW argon laser be dangerous to the eye at a hundred and fifty feet (the reported altitude of the copter); CW argon lasers of that size have a very wide beam divergence. He further points out that the beam would not be visible very far off-axis, so if the copter cops were able to pinpoint its exact source (as they obviously did), they must not have been dazzle-blinded. It's still going to be hazardous to cast coherent beams into the night sky, police paranoia being what it is these days.

What does Gail's father know about it, I hear you ask? Didn't I mention? He used to work for Hughes in Carlsbad, designing laser tubes. He since retired from Hughes, and went to work for Melles-Griot, doing the same thing. Now you know where I got that little 12V supply...

As I alluded in the MC's, JON SINGER dropped by a few weeks ago. Actually, we drove down to San Diego to meet him (he'd been going to some training thing), ate dinner at an absolutely marvelous Peruvian restaurant in La Jolla, and brought him up here to sleep on the sofa bed. The next day (Sunday), we drove over to Keith Thorne's, and then to Change of Hobbit, before taking him to the airport. Fun, but next time he does the driving...

...I learned about three new types of lasers which would, I was assured, be trivial to build if I just had vacuum equipment and quartz-welding capability. Jon also left us a copy of Frogs Into Princes, the book on Neuro-Linguistic Programming that he's been known to rave about. I don't know yet if raving is called for (finally got around to starting it today), but there seem to be a few techniques I can use in teaching.

Oh, one other bit about work that I forgot to mention -- various people here were talking about dress codes, suits, and etc. As I understand it, my office is one of very few DEC offices where ties are not mandatory. The first day at the on-site I did at the Santa Clara office I felt quite out of place, since just about everyone (students included) was wearing ties and I hadn't brought any, having gotten out of the habit of wearing them -- but then I thought: Hell! I don't want to be up here anyway -- if they don't like it they can send me home! (They didn't. Send me home, that is. And considering how I pulled their tails out of the fire re. that class, I doubt they'd have cared if I'd been wearing a t-shirt and jeans.)

The question did come up when I was preparing for my first class. I did an hour lecture in front of my product-line manager, Lee Smith, who is an adequate instructor, but who knows what works and what doesn't for other people. "Why are you wearing that tie?" he asked. "I thought it would add credibility," I said. He pointed out that you only need symbols like that in jobs where your competence or lack thereof isn't immediately obvious. In this job, your students know whether you know your stuff or not fifteen minutes into the first day's lecture, and wearing a tie or not won't make a damn bit of difference. And, he said, I didn't look as though I was comfortable wearing one -- so I oughtn't. I haven't worn one since.

I wish other managers were as enlightened; I hate wearing ties.

THAT'S ALL, FOLKS

Sorry for the small amount of hard news, but I've got to put this zine -- and myself -- to bed. Lots to do tomorrow, and the next day, and many days after that.



P.S.--1981 Hugu nominee: Tom Wolfe, for bringing the phrase "The Right Stuff" to the attention of Toyota's marketing division. (The crime was committed some time ago, but did not manifest itself until late last year, so the timing is still appropriate.)

P.P.S.--to whoever asked a few issues back, " is a "quasi-quote". It means "I can't swear that this is exactly what was said, and it's either impossible to look up or too much trouble for this occasion, but this is the gist of it, as close as I can recall."